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JOURNAL
OF THE
Association of American Medical Colleges

Volume 7 SEPTEMBER, 1932 Number 5

Pediatric Teaching: Résumé of Proceedings of White House Conference*

BORDEN S. VEEDER
Washington University School of Medicine, St. Louis

It is a privilege to speak to the Association of American Medical Colleges as a representative of the White House Conference on Child Health and Protection. The question has been asked why the conference should have concerned itself with such a technical subject as "pediatric education." Every phase of work with children has a health or medical aspect and every health activity involves the medical sciences. It is impossible to discuss what is being done for the health and protection of children without involving the physician either directly or indirectly. Not only have the physicians of the United States received their knowledge of pediatrics in whole or in large part in their undergraduate courses, but their attitude toward the health problems of childhood has in large measure reflected the attitude of their school and pediatric teachers. It was for this reason that the third White House Conference on Child Health and Protection found it necessary to study the training in pediatrics which the physician receives in the medical schools.

In order that there may be no misunderstandings and that we may be sure we are talking about the same things, it may be of advantage to discuss briefly the term "pediatrics." Pediatrics, as the term is used today by those who are particularly interested in this field, and as the term is used in the report, is not a synonym for "diseases of children." Although it includes this subject as one of its parts, its scope is much larger. Occasionally, I meet some physician or teacher who still holds this archaic viewpoint. Pediatrics may be defined as that branch of the medical sciences which has to do with the factors which influence the growth and development of the individual from birth to maturity.

The three most important factors are heredity, environment and disease. It includes the mental as well as the physical aspect. This is quite a different matter than the definition of pediatrics as the "study

*Read before the Forty-second Annual Meeting of the Association of American Medical Colleges, held in New Orleans, Nov. 30, Dec. 1 and 2, 1931.

of the diseases of children." Some of you may disagree with this definition. It was submitted to the heads of pediatric departments of a number of the leading medical schools and no better definition was offered. Regardless of whether or not you may agree with this definition, it is the general conception of the subject in modern medical thought, the scope of its present day teaching, and the conception on which the study and report on pediatric education is based.

A second point to be emphasized is that the report deals only with the training of the physician in general practice and not with the training of the physician who restricts his work to pediatrics.

Copies of the "Pediatric Education Report" were sent to the deans, to the heads of the departments of medicine, surgery, obstetrics and pediatrics, and to members of the curriculum committees of all medical schools. I am taking it for granted, therefore, that nearly every one present has received a report, and so the discussion can be confined to certain points rather than to the report as a whole.

The first aspect of the report I wish to discuss is that of facilities for teaching. This naturally is a necessary requisite for adequate instruction. With schools varying in size from seven with third and fourth year classes of less than 40 students each, to seven with classes of more than 120, it is quite obvious that satisfactory facilities for one school might be quite inadequate for another. There is no accepted ratio of hospital beds to the number of students to assure adequate material for clinical instruction. Eight schools have less than twenty-five beds for pediatrics and nine others less than fifty. The committee feels that the latter number is the minimum essential for any school. In other words, in 30 per cent of the schools the number of beds is probably inadequate for teaching. As a rule, the hospital beds have been found to be under the satisfactory control of the head of the department.

In addition to hospital beds, outpatient facilities are necessary for teaching pediatrics, as the vast majority of the illnesses of childhood do not neeed hospitalization. As a rule, outpatient facilities have been found to be satisfactory. The exception to this lies in the so-called "well baby clinic." Only 50 per cent of the medical schools utilize the well baby clinic. A very large part of the work of the physician with infants has to do with the care of the well rather than the sick baby, and it is difficult or impossible to teach normal feeding with pathologic hospital material.

Perhaps the most striking deficiency in facilities for pediatric instruction lies in the field of the "contagious" disease group of the communicable diseases. In 93 per cent of the schools this teaching is largely

or wholly in the hands of the pediatric department. Most schools rely on municipal hospitals for teaching contagious diseases. Twenty-one per cent of the schools have less than twenty-five beds for teaching this group of diseases, and a few have no beds at all.

The committee, which was composed of ten teachers of pediatrics, finally arrived at "minimum teaching facilities for adequate instruction" which it feels should be a part of every medical school. These are:

Fifty beds for infants and children under the control of the head of the department.

Ten bassinets for newly born infants in a maternity hospital or division under the control of the pediatric department.

An outpatient clinic with a ratio of at least 10 new pediatric admissions yearly for each student in the senior class.

A "well baby clinic" for teaching normal feeding, growth and development.

Affiliation with a hospital for "contagious" diseases.

Laboratories for routine and research work.

It is not the idea or purpose to standardize facilities. It is rather to make a minimum goal which the medical school authorities should endeavor to reach.

One of the points on which information was obtained was the opinion of physicians in practice of their undergraduate courses in pediatrics. About 2,400 replies were received from men in pediatric practice and 500 from general practitioners. The question was asked to be answered "in view of their present needs and experiences." As there has been a steady improvement in pediatric instruction in recent years, the replies were tabulated by years of graduation. About 28 per cent of the men in pediatric practice considered their training satisfactory, while 72 per cent considered it unsatisfactory from one or more viewpoints in light of their present needs. A third considered their course deficient in clinical facilities, 19 per cent said "too little time;" and another 19 per cent said "giving insufficient consideration of the normal child."

Of the men in general practice, 40 per cent, or two-fifths, considered their course unsatisfactory in the subject of minor ailments; 25 per cent, or one-fourth, in preventive measures; 37 per cent in the care of children over 6 years of age; and 25 per cent in the care of the newly born. While we do not consider their reports of major importance, they do give a clue to teaching deficiencies and in this respect are of particular interest to the heads of departments.

The next point to consider is the questions of hours allotted to teach-

ing and their utilization. Let me say at once that the committee, composed entirely of teachers and members of faculties, are not ignorant of the difficulties of this subject, nor do they hold illusions or delusions. They are well aware of the many shipwrecks of faculty harmony on the rocks of curriculum hours.

It was impossible for one reason or another to obtain accurate and satisfactory data from all schools. In the final tables fifty-four schools were studied. Eighteen of these belong to the group with an elective schedule, while thirty-six, or two-thirds, have a fixed curriculum.

In the thirty-six schools of the fixed hour group, the average school assigned 184 hours to pediatrics. Sixty per cent had less than the average and 40 per cent more. In six schools less than 100 hours of the average 2200-2400 hours of the last two years were given to pediatrics.

The average of the elective group was 155 required hours, with eleven schools assigning less and seven more. Pediatrics was apparently a favorite elective in many of these schools. In one school with 132 required hours, the entire fourth year class elected 70 hours additional. In another school with 154 required hours, 92 per cent elected 44 hours additional. In all, based on a study of medians, it would seem that about 35 per cent of the schools give insufficient time to pediatrics. As a rule, the ratio of hours for internal medicine to pediatrics is about 4 to 1. Ratios of 10 to 1 point to something being out of step in the way of an irrational distribution of clinical teaching hours.

We are fully aware that comparisons based on total hours are of comparatively limited value, in that they show nothing in regard to the way the hours are used nor the character of instruction. We know of no way to make a comparative table of these factors. Some tables of methods of instruction are given in the report. It is quite obvious that schools with inadequate facilities might waste hours when a school with adequate pediatric teaching facilities would use a like number to advantage.

While standardization is undesirable, a study of the way teaching hours assigned to pediatrics are utilized shows that a "hit or miss" method based on facilities, or the personal choice or opinion of the head of the department, seems to be the guiding hand. In other words, there is a distinct need for the study of pediatrics from the standpoint of pedagogy. This probably holds true for all other clinical branches as well.

Another way of approaching the matter was the outlining of the material which should be taught in a modern course in pediatrics. This

material was checked and rechecked, criticized and recriticized by numbers of teachers. When the outline or syllabus was finished it was studied from the viewpoint of time and the concensus of opinion was that approximately 200 teaching hours would be required to cover the material outlined. Provided facilities are what they should be, this is approximately the minimum time that should be assigned pediatrics as a basic course.

Many items of teaching information relating to preventive pediatrics, the care of the new-born, the adolescent, the mental and psychologic problems of childhood are discussed in the report.

When we find that based on a cross section survey of the United States only 21 per cent of urban children under 6 years of age and 7 per cent of rural children have been vaccinated against smallpox, and 21 per cent of urban and 18 per cent of rural preschool children have been immunized against diphtheria—both accepted preventive measures—we realize that the physician is not living up to his responsibilities. The question arises, have these matters been stressed sufficiently upon him while an undergraduate student?

Perhaps the crux of the situation is this. Pediatrics today cannot be regarded as a specialty. It does not have its origin in some anatomic part or system nor in the study of some particular disease. It is a basic fundamental branch of clinical medicine. It treats of the growing developing organism and has a physiology and pathology quite distinct from that of the mature organism. The problems of growth and nutrition—both physical and mental—form a large part of the work of the physician in practice. It is—let me say frankly to those who are exercised about the matter—the field in which "state medicine," so-called, has its deepest roots. Preventive medicine has found its chief development in pediatrics. Certainly a field of work in clinical medicine which has such extensive ramifications as well as limitless possibilities cannot be regarded as a medical specialty.

We hold no illusions as to the immediate effect of the "Pediatric Education Report", nor do we have expectations of its producing profound changes. If here and there it creates interest and thought among those to whom the destiny of medical education is entrusted and enlists their help in the important matter of improved pediatric teaching facilities and opportunities, the committee will feel its work has been worth while. We feel that we are on firm ground when we say that a medical school without an adequate pediatric department and adequate teaching facilities, such as outlined, must be relegated to the rank of an inferior school and is not properly preparing its graduates to go out and practice medicine.

Pediatrics: Its Place in the General Health Education Program*

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In discussing the place of pediatrics in the general health education program, it might be well, at the onset, to recall that the keynote of health education is prevention, and that prevention not only quite naturally should begin at the beginning (with children), but also it is more urgently necessary in the sensitive, rapidly developing, less resistant young. And, further, children present the most fertile soil in which to sow any sort of educational efforts. Thus, it is the inherent responsibility of Pediatrics to assume a prominent role in health education.

Good health in children is not only highly important to children themselves, but also it lays the necessary foundation for their proper later development into adults. Because of the rapidly increasing recognition of this fact Pediatrics is bombarded from all sides for more information concerning the proper mental and physical care of children. The following will be a consideration of some of the sources and underlying bases for these requests for information, also some suggestions concerning means for training physicians to give this information in a more or less authoritative way.

Laymen

The layman is eager for information concerning the proper mental and physical care of children, so eager that he or she indiscreetly will accept information from any one who is willing to give it, and this includes nearly all the adult population. With the eagerness to know this indiscreet and uncritical attitude of the layman has prevailed, largely because of the scarcity of those adequately trained to give proper information, and because of the backwardness of the average physician to assume the role of health teacher. As a result of this lack of training or unwillingness to teach on the part of the physician, the self constituted lay authority who is usually a sentimentalist has flourished, and the frequent misinformation emanating from such source is not easily corrected. The situation is improving however, with the increase in quantity and quality of pediatricians, but we have a long way to go since probably more than half of the children are still being looked after by those who have had relatively little special training in their care.

*Read at the Forty-second Annual Meeting of the Association of American Medical Colleges, held in New Orleans, Nov. 30, Dec. 1 and 2, 1931.

Health Organizations

Under this group may be included official health organizations, such as national, state, county, and city, and the various voluntary medical and lay health organizations, such as tuberculosis organizations, crippled children's societies, mental hygiene and child guidance organizations, parent-teacher associations, and so forth. While these organizations differ in their degree of importance, there is one thing that is common to all, and that is, that to the extent that they deal with individuals, children receive the major part of their attention. One of the important purposes of these organizations is or should be health education, and it is one of the duties of the pediatrician as the authority on matters concerning the mental and physical health of children to cooperate with these organizations. It is the responsibility of the physician who cares for children so to equip himself and so frame his mind that he can and will take over the therapeutic burden which results from health education, whether this burden be in the form of requests for prevention or for cure. It is the responsibility of health organizations so to educate these children and their families that they will ultimately go independently for assistance to those responsible for their care (the physicians), and to the extent that is possible, pay for this care just as they pay for other valuable things they get, otherwise widespread dependence and pauperization will result.

Graduate Physicians

It is my impression from talking with a large number of physicians that the average physician who is doing general practice and who graduated more than a few years ago, feels that he knows less about pediatrics than he does about any of the other three major clinical subjects. This should be true because there are very few schools in which there was at that time adequate facilities for teaching Pediatrics in a way that was comparable to the instruction given in the other major clinical branches. It is certainly true that when postgraduate courses are offered at present Pediatrics is a very popular choice. Because of the deficient pediatric teaching facilities for most of the former graduates in medicine, and because of the rapid advances made in pediatric knowledge especially along the line of prevention, it is quite important that medical schools offer to general practitioners at least, opportunities to learn more about the care of children. Whether this should take the form of extension courses or courses at the medical schools or both would depend on the conditions existing in any community. My opinion is that we should develop the medical school facilities so that the school would be looked

upon as the center for postgraduate teaching as well as for undergraduate teaching.

Undergraduates in Medicine

To satisfy the widespread clamoring for information concerning the modern care of children it is necessary, as indicated above, that we develop better means for giving instruction to those already graduated, but at the same time to insure that our future physicians will be equipped to give any sort of authoritative advice on the care of children, it is necessary that we put our house in order with regard to undergraduate pediatric teaching. Pediatrics is nothing more or less than internal medicine of the young human being, but there are certain conditions that are limited to children or that occur so much more commonly in children than in adults that it is necessary that Pediatrics teach these phases of medicine. An example of a few of these conditions are those associated with the newborn, such as congenital defects, asphyxia of the newborn, bleeding of the newborn, birth injuries, congenital syphilis, and so forth. Others are the acute diarrhoeal conditions of infants, the deficiency diseases of infancy, the acute contagious diseases, and growth and development, with all the factors influencing them, and that important field of prevention including the immunization of all children against certain diseases.

Then too, many of the diseases that are common to all ages often have unusual manifestations in infants and children, and since pediatrics is taught coincidently with the internal medicine of adults, it is necessary that we in pediatrics teach internal medicine as we go along just as the internist does. For example, if we have a child with pneumonia we can not merely tell the student that this is pneumonia and that these are the unusual manifestations of pneumonia in children when the student has not yet been taught about the pneumonia of adults. However, that is about what the average pediatric curriculum gives us time to do.

Further, there are certain phases of medicine which, because of their importance to children, must take much of the small amount of time usually allotted to pediatric teaching, but which, with adequate facilities and more time, could be so taught that there would result a much clearer understanding of similar conditions in adults. Let us consider nutrition, for example. There is no fundamental difference between the nutrition of a child and that of an adult. Both the adult and the child are human beings, but recall how quickly the sensitive highly tuned infant shows the effect of unbalanced or improper diets. These same improprieties and unbalances affect the adult, but because he is

more resistant his diet or his nutrition gets little consideration from the average physician until he shows evidence of starvation, gout, pellagra, diabetes, or some other gross disorder. Could we not teach better the importance to the human being of proper nutrition if we could devote more time to this subject in infants and children where nutritional deficiencies or abnormalities appear more quickly and can be seen more clearly?

Another example of a phase of medical teaching which I think could valuably receive more time and effort with children as the subjects, is normal mental function and the variations from the normal (psychiatry). Could we not give the student a better idea of what we call normal mental function, if we used as a subject the child in whom this situation more often prevails in a simple understandable form? Could we not demonstrate variations from the normal better in a child since in him we can see the simple beginnings of these variations from the normal? Could we not teach better with the child prevention of abnormal mental function, since prevention is less difficult to accomplish if one can observe the beginning of trouble and get an early start with corrective measures? And finally, could we not understand better the abnormal mental conditions in the more complex adult if we had more time and facilities to study these same conditions in their simpler forms in children?

There are other phases of medicine which I think could be taught more effectively if children with their simpler and more clear cut manifestations were used as subjects, but our present pediatric curriculums permit of little more than bare mention of these to the student.

There is however one field of medical work that I can not pass without discussing for I feel that the unusual opportunities afforded by children in this field are not generally recognized. That is research. Because of the sensitiveness of the child, his quick response, and the relative simplicity of his reactions, due to his comparative freedom from a complex mass of interacting conditions, he is the most satisfactory subject for many phases of clinical investigation, is an excellent subject for the study of discubances of the chemistry of the blood, for studies in etiology, immunology, allergy, nutrition, mental and physical growth and development, and so forth. Thus, it is quite evident that adequate provision for research is highly important to any department of Pediatrics.

Nurses

The deficiency in pediatric teaching has been even greater in the case of nurses, because in many of the smaller training schools for nurses

there has been no semblance of systematic pediatric teaching. This becomes only too evident when the average graduate nurse is called in to take care of a child who is sick enough to require a special nurse. Consider this inadequacy in connection with the fact that children are more helpless than adults, are more sensitive and less resistant to carelessness, and therefore require a more careful and finely adjusted nursing supervision. And too, sick children who do not communicate plainly their discomforts and wants and whose condition may change very quickly need almost constant observation, so in Pediatrics it is important that nurses be so trained that they can help intelligently to do much of this observing.

Another demand for pediatric teaching comes from the rapid increase in the number of graduate nurses who are going into public health and school nursing, and whose work is chiefly concerned with children.

Summary

An attempt has been made to point out that there has been a rapidly increasing recognition of the importance of the mental and physical health of children, and a widespread eagerness on the part of laymen and various organizations for more and better information concerning their care. Physicians who should be the authorities for this information are in general not adequately prepared to give it. The fault lies primarily in our medical schools. In the past most schools have been and at present many schools are inadequately equipped to teach Pediatrics well. Correction of this unsatisfactory situation can come through postgraduate teaching and improvement of pediatric facilities for undergraduate teaching by providing time, teaching staffs, and hospital, outpatient, and research facilities, sufficient to make Pediatrics actually and not merely nominally one of the four major clinical subjects.

Heredity as a Subject in the Medical Curriculum*

E. P. Lyon

Dean, University of Minnesota Medical School, Minneapolis

As a physiologist I have always been much interested in heredity; and since the rediscovery of Mendel's work and its extension, it has become, I believe, one of the most significant parts of biology. In fact, one has but to view the application of this work in the field of animal or plant industry, to be convinced of its great economic as well as scientific importance.

However, I never thought of it much in connection with medicine until the time of the White House Conference. When our men returned from the first session, Dr. Litzenberg, whom most of you know, made a report on this meeting to our medical faculty. After he had gotten through I asked him, "What did they say about heredity?" and he said "Almost nothing."

That aroused me considerably because I could not conceive of a conference being held on farm stock, for example, in which there should not have been large attention paid to the matter of heredity, and yet here was a great meeting gathered under the most publicity possible, to deal with human stock and very little said about it.

I talked the matter over with our biologists, botanists and zoologists and those in the agriculture and medical schools, and they all, like myself, looked on this as a very unfortunate omission. The result was I went to Washington for the second session to see whether the first omission could be corrected. I found the subject was practically taboo. There were gathered by the hundred the great and the good to do something for the children of America. Millions of dollars, it seemed, and millions of words were being expended on environment and not a cent nor a word on heredity.

I wrote up a memorandum setting forth the opinion of the biologists of the University of Minnesota to the effect that heredity is important from the human standpoint, that too little attention had been paid to it at the conference, and that we hoped there might be held a future conference which would deal adequately with this subject. Secretary Wilbur read this memorandum into the minutes at the last session; and it was referred to a special follow-up committee who are still chasing it, I presume.

*Read before the Forty-second Annual Meeting of the Association of American Medical Colleges, held in New Orleans, Nov. 30, Dec. 1 and 2, 1931.

A beautiful piece of English composition called "A Children's Charter" came out of that conference. Its nineteen separate articles are devoted to improving the environment. There is not a word about heredity.

I quote from one of the speakers: "No eugenic program is proposed. We cannot state what kind of persons we want in the world, so varied are we and so great our need of variety." I felt like countering, "The variety is evident, but the need of certain kinds is debatable."

"Although we know too little of human heredity," he continued, "to adopt a positive program . . . , we do know that some traits of a sort very disadvantageous to the individual and very harmful to society are so strictly inherited that certain persons should not reproduce their kind." And then he went on to say that the temper of the people does not favor a thorough going program of sterilization, and advised that we "press forward with our scientific studies so that if the time comes when the public attitude on these matters shall change, more complete information shall be available upon which to base action."

This seemed to me the counsel of futility. As I said at Baltimore in speaking of this matter, it was as if he said, "Back to your laboratories ye scientific hirelings! Get busy with your rats and guinea-pigs! If the public ever gets interested in the question, they will come to you."

"Back to your cell, Martin Luther. If the people ever get interested in the Reformation they will come to you. Back to your type case, Mr. William Lloyd Garrison; back to your briefs, gangling country lawyer, Mr. Abraham Lincoln, and if the people ever get interested in freeing the slaves, they will come to you."

But that was not the temper of the conference on the other side. Starting with the fertilization of the ovum, an event fraught with fate, they went gravely forward to recommend what should be done—environmentally—with the misfits and degenerates of the population. But they made no effort to shut the sluice-ways by which these misfits and degenerates, so far as they are due to heredity, come into being.

I got tremendously interested and I have been spilling over ever since. The memorandum, that some of you probably saw, in behalf of the Minnesota biologists was published in *Science*.

Some of you may say, "What has this to do with medical education?" Of course, it has nothing to do with medical education unless it has to do with the medical profession. I think heredity has a close relation to medicine—an increasingly important relation. I think doctors will have to be leaders in any effective program of eugenics or of the use of the facts of heredity for the benefit of the race.

It is perfectly plain to all who are here that biology divides itself into the two great parts which deal with heredity and environment. Inevitably biology so divides because it postulates the organism as something separate from and played on by all events which are around it, in other words, the environment. That organism—any organism—must be the result of an hereditary process sweeping through the ages by which it has come to its present place. Heredity and environment, Siamese twins, the one cannot exist without the other.

If you think about medicine, you will see that it is applied biology; applied physics, chemistry and biology, just as our beloved Dr. Vaughn used to say, but the parts of chemistry and the parts of physics that the doctor is interested in are those which relate to life, and are part of biology. So you can put it in general terms that medicine is applied biology.

Which part of biology does present-day medicine chiefly apply? The environmental side! You can not get around this fact. Look at the medical journals. Almost all the articles approach disease from the environmental side. I do not know much about the practice of medicine, but thinking of treatment I should say, from pills to prayers, it is all from the outside, all environmental—must be so, for the patient has his heredity already established.

On the diagnostic and prognostic sides, so far as I can learn from doctor friends, there is much more room for application of facts of heredity. I suspect it could be applied still more if the facts of family disease were better known. I suspect, in other words, that records of heredity for most patients are almost absolutely wanting. How many of us know accurately even about our grandparents? It is apparent at once that if such records are ever developed the doctors will have to take first hand in the development and keeping of them.*

Personally, I think we ought to begin at once. I think the main facts about the heredity of every baby that comes into the world in our hospitals ought to be on record and kept. Forty years later when he wants such facts, the grandparents and other relatives will be gone. Our students should be taught the importance of familial disease and the necessity of having records going far back in family history.

Heredity seems also to be of great importance on the preventive side. Even though the physician does not get adequately paid for it, nobody

*I note that the records of the late Professor Dercum, in accord with his will, have been destroyed. I consider such destruction little short of criminal so far as such records might bear on the progeny of his patients. They should have gone into a confidential system of familial information available to the doctors of the future. Better blackmail (which was the evil feared) rather than congenital taint of many known, other to be discovered, defects and diseases.

doubts that it is part of his duty to prevent disease. His duty, of course, lies with those human individuals who already exist and who seek his service, but when you think about it broadly would you say it lies less to the future than it does to the present generation?

I think everyone who considers this matter soberly and broadly will say that preventive medicine should extend to future generations as well as to the present generation.

I am not alone in this. I have quotations from Jelliffe and Stockard, and can easily find many more—men who are physicians, which I am not—as to that side of the physician's responsibility.

I am discussing the whole question of familial and hereditary diseases. The tragedy of these conditions was mentioned at Washington. I might mention specific ones but will pass them by because the situation is doubtless better known to you men—mostly doctors—than it is to me.

The question is as to whether physicians are doing all that is possible to prevent the propagation of these diseases. Of course, my only source of information was inquiry. Some of my doctor friends would say "yes," and some would say "no," and some would say, "The patient gets information when he asks for it." The latter attitude did not seem to me recognition of any strong feeling of obligation on the subject. At any rate, I came to the conclusion and believe very sincerely that physicians know too little, think too little, and do too little of what might be done practically to extend what we know of human heredity toward the betterment of the human family.

You all saw, I think, newspaper items recently to the effect that the former King of Spain has forbidden his daughters to marry. The statement which I read was that the King had his daughters examined medically and found that on the basis of hemophilia in the family his daughters should not bear children. As a race betterment measure, therefore, the King forbade his daughters to marry, which caused a great deal of heart break because one of them was engaged.

The significant thing is that according to the papers, the King had his daughters examined. They did not say the initiative for such examination came from the medical profession. I think physicians should have had the boldness and insight and the far-sighted point of view to have given that advice—or different advice that would have the same ultimate result—long ago.

I recognize that physicians have no legal responsibility as regards marriage—or at most, only in certain limited respects and in certain

states. But as men possessing certain knowledge and enjoying certain opportunities does not their duty extend very widely in the marital province? If the doctors knew of a prospective flood of epidemic and failed to warn, exhort, enjoin the people, where would they stand in public opinion? But the flood of defective heredity sweeps on through the generations. It is not like the flood of epidemic, transient and self-limiting. Indeed, the natural tendency to self-limitation through the law of survival of the fittest tends to be circumvented and broken down through the efforts of modern science and philanthropy. The White House Conference, itself, will keep alive and bring to reproduction many an individual whom nature, uninfluenced by man, would destroy. I think the physician should know and should act in his great capacity of teacher—his most important function—more aggressively and persistently in these premises of marriage and child-having than he has ever done before.

Of course, birth control is not an eugenic measure or a disgenic measure. It depends on what part of society is making major use of it. But there are hereditary implications and this is a thing which I think our medical students are not getting instruction or forming educated opinions on. I do not agree with Dr. Glendenning who thinks that everybody knows all there is to know. I said in writing a review of his book that I thought not everybody had had the advantage of the back alley training which Dr. Glendenning and I had enjoyed.

Sterilization is an eugenic measure, undoubtedly, and yet I find doctors who will not take any stand about it. Many doctors have not a matured opinion on it, and many of them say, "It doesn't amount to anything."

In Minnesota, about 500 feeble-minded women have been sterilized, and in California 6,000 or more, yet doctors talk about that as a drop in the bucket. I can not see it that way. I am reminded of the story of the so-called "Disgenic Family," which you will find in the journal, *Eugenics,* of about a year or a year and a half ago. I believe the family exists in Milwaukee. A grandmother of the present adults came there in 1850, undoubtedly a feeble-minded woman. At present, of the 40 or 50 adults, there are so many paupers, criminals, epileptics and other forms of degeneracy among them as to more than equal the total number of individuals. The article asserted that the cost of taking care of that family for the next five years would be $50,000, and that the records show the expense would be doubled every five years. When you think of all that, and imagine the grandmother had been sterilized,

you could not have called it a "drop in the bucket." You would rather have spoken of keeping the drop of infection out of the ocean of broth. According to that old illustration of the bacteriologists, you recall, if you should put one drop of bacteria in an ocean of broth, in five days the whole ocean would be polluted. Heredity works by reproduction, and reproduction works by geometric ratio. Hang that fact on the most prominent hook of your mental clothes rack and wear it in the forefront of your thinking at every possible opportunity.

All right, then. I come to the conclusion that doctors know too little about heredity, think too little about it, act too little about it, are interested too little; and that brings me straight to this group. I think we ought to advocate and get permeating through the medical curriculum just as much knowledge of heredity and just as much mature opinion about its application as is possible. I have no program, but as I conceive it, somewhere the fundamental facts should be presented plainly and clearly to medical students, and the practical importance of the facts should be stressed. The rest should be left to the clinical teachers who should emphasize and teach on it at every opportunity.

I believe when we get to a better practice of medicine, heredity will be found just as practical a subject as environment, and that perhaps more—yes, I would say definitely more—could be done for the future of the race through that part of medicine which is founded on heredity than that part founded on environment.

Discussion

DR. FRED L. ADAIR (University of Chicago) Chicago: I would not venture to qualify as a specialist on heredity and eugenics, but being a teacher of obstetrics and gynecology I have been somewhat interested in the problems which Dean Lyon has raised. Having had a rather intimate connection with the White House Conference, I should like to clarify the situation a little so far as the White House Conference is concerned.

In the first place, the White House Conference was not really a governmental project. True, it was sponsored by President Hoover, and Secretary Wilbur, being Secretary of the Interior as well as being connected with numerous other enterprises, was chairman of the White House Conference and also chairman of the Planning Committee. However, the secretaries of all the four principal sections, with the exception of Surgeon-General Cummings, were not government officials.

In the second place, the Conference did not have millions of dollars to spend but had $500,000 which will be spent. Of course, there might be millions of dollars in service if you figured in the expense and efforts of all the people who participated actively in the Conference.

In the original call for the Conference, which was based on a program outlined by the Planning Committee, it was stated that the activities of the Conference would be limited to a consideration of problems from conception to the eighteenth year, and most of us who were actively engaged in the work of the Conference found that quite a considerable span to cover. In fact, I think all of us were overburdened rather than underburdened with the work of the Conference. However, we did slip into a couple of the Committees in Section 1, which had to do with medical service, some people who were interested in eugenic and hereditary problems. In the Committee on Growth and Development, of which Dr. Blackfan of Harvard was chairman, there were some men who are interested in heredity and eugenics, and those matters were considered in so far as they affected subsequent growth and development.

In the Committee of which I was chairman, the one on Prenatal and Maternal Care, we had a subcommittee on basic sciences of which Dr. Arey of Northwestern University was chairman, and in that Committee we had Dr. Paul Popenoe of California, who has had probably as much experience with the application of the problems of sterilization to human beings as anyone. So while these matters were not brought to the forefront in the Conference, they were, nevertheless, considered, and I think all of the medical personnel involved in the Conference certainly were alive to the question of heredity and the eugenic problems in connection with child life.

I think the resolution which emanated from Dean Lyon was the only communication from really scientific groups which was presented to the Conference for the consideration of heredity and the various eugenic problems.

I agree with Dean Lyon thoroughly that some definite steps should be taken to teach these subjects in the medical curriculum, and we are attempting to begin to do that in the department with which I am connected.

Reverend A. M. Schwitalla (St. Louis University) St. Louis: A recent review of the incoming freshman class last year revealed that 60 per cent had a course in genetics, or have been exposed to it at least. I was very much interested to find in that group how many of the students had been able to apply genetics to what they, themselves, saw in an anatomy class, for example.

I took occasion to sample those students who had had genetics by little conferences with them in the corridors. There was no effort made at getting out a real questionnaire on the subject or of making a systematic study, but a sampling here and there of individuals whom I met from time to time, which revealed the thought that the bugaboo of heredity as something that is entirely dominant in a person's life is probably taught in the majority of courses in genetics.

Now I come from a group that was dominated by the Jennings line of thought. In fact, being one of Jennings' pupils I felt I ought to have a sense of responsibility for representing his views correctly. This question of spending millions of dollars on environment and only a few hundred thousand on heredity has been discussed, as you all know, in strictly scientific circles.

Dr. Lyon quoted Stockard. You know Stockard's recent conclusions on heredity. When he started his experiments on alcohol and rats his results

were heralded by the W.C.T.U. and other organizations of the same kind as affording conclusive proof on the disgenic value of alcohol. When the second generation came along the situation was not quite as bad. Then the third generation of rats came along, and it was a lot better than the original stock with which Stockard started out. In spite of the fact that Stockard had taken a great deal of pains in the selection of his first group, he said, "If you want to breed for three generations hence, drink all the alcohol you can possibly get hold of." Stockhard has lost a considerable amount of his sureness in the fate of heredity.

Pursuing that same line of thought and applying it to the medical students, I am a little doubtful as to whether or not an overemphasis on heredity is going to do very much good to the medical student or the prospective physician.

Here are the lines of thought that have formulated themselves in my mind. There was once used an old history blank that was given to interns in one of our hospitals to be filled out, and under the heading of "Heredity" the intern, or whoever took the history, was supposed to define very definitely his conclusions as to what the individual's hereditary background was. I saw one or two of those histories filled out: "This individual is hopeless; his grandfather had diabetes."

Of course, that is not going to make for a very sane and very definite practice of medicine. Who it was that inspired those conclusions, I do not know, but there are a great many indications of conclusions of that kind which are, naturally, entirely unwarranted.

The work of Kretschmer in Vienna and Ewald at Munich, I believe, if I mistake not, is showing us more and more the nonspecific character of some inherited traits, and a large number of these have a very distinct bearing on the practice of medicine. Inheritance of a weakened nervous constitution, or whatever you want to call it, some sort of a taint in the nervous mechanism, is not going to be perpetuated as a definite clinical entity. It is going to be modified in accordance with the individual, with the environment. In accordance with my revered professor's teachings, there is a possibility of something beyond recognizing the trait as a heredity trait.

The situation in regard to these matters is very much like the history of the study of inheritance of size. There was a time when size was regarded the outstanding characteristic that enabled us to understand the workings of heredity, so much so that the size of organisms that Mendel gave us was the clue as to the laws of heredity. The same thing is true of the work on animals. We have some noteworthy work on the protozoan forms at the Johns Hopkins school.

A little while after, the endocrinologists came into vogue, and they began to show us that the whole story of size is tied up with endocrinology. Before very long the nutritionists came along and proved to us conclusively that no one had anything to say about size except the nutritionists. So the geneticists, endocrinologists and nutritionists all claimed the preponderant influence regarding size. Some very recent work showed us how these fundamental viewpoints could be reconciled. While we start out with a given heredity unit or determiner, that is modified by environmental influences to an extent which is

almost incredible. What is true of these forms is also true of such other characteristics as we have to deal with in medicine.

The work on the diseased types that has been done at the Harvard School is clear to all of us, and we see definitely that they are modifiable and subject to the influence of environment. This being true, I think we should stress heredity in the medical course, but I would also like to see the stress placed where it belongs, not the fact that environment modifies heredity so much, but that between environment and heredity there exists an equilibrium relation which alone establishes the fate of the human as well as of all other organisms.

Dr. B. D. Myers (Indiana University) Bloomington: I do not speak to this subject from the standpoint of a specialist but I speak as one who has been deeply interested in the subject for many years.

I quote from Bianchi, the retired psychiatrist of the University of Naples, who says "in spite of the decrease in infant mortality; in spite of the increase in the average life rate; throughout the civilized world there is an increase in crime, in feeble-mindedness, and in insanity."

As physicians we have contributed to the decrease in infant mortality, and we have contributed to the increase of average life span. Just as directly, I think, we have contributed to the increase in feeble-mindedness, crime and insanity by keeping alive individuals who, under conditions that existed 100 or 150 years ago, would have died. Under the law of survival of the fittest, they would have been killed.

To my mind, one of the most important things in the world is the trend of our civilization. Those of you who are interested in state institutions know that taxation for the support of the feeble-minded and the insane and the criminal is growing so greatly as to threaten support of education. It is vastly in excess of the support of education. They are building great institutions which they call reformatories, and yet we go along without any effort to strike at the preventive side of this great problem that Dean Lyon spoke of.

Admitting all that Dean Schwitalla has said, we have studies like the Kalikak family, beginning with the feeble-minded boy in 1775, born of a feeble-minded mother but a strong, normal father. From that feeble-minded son we had, at the time this study was made under the patronage of Mrs. Harriman, almost 500 descendants. How many are living at this time, I do not know, but let us say there are 50 living today. Each one is a center from which goes out a broadening stream of bad inheritance.

I think this is one of the most important problems we have to deal with. Indiana, the old Hoosier State, followed California and Minnesota in the passage of legislation a year ago providing for sterilization of the feeble-minded. We realize we will catch only a small number perhaps, but we believe even that small number, considered from the standpoint of 150 years becomes an important number.

By way of constructive suggestion, we have in our state, as I suppose you all have, in connection with your State Board of Health, a Department of Vital Statistics. Certain facts about every baby born in each state, are recorded. Now if we, as doctors of medicine, should ask that facts bearing on

the heredity of the child and at death on the social status of that individual, be recorded—not quickly, but in 150 years—we could have a mass of material that would contribute tremendously to this problem, and 150 years is a mere bagatelle from the standpoint of the long future development of our civilization.

Dr. E. P. Lyon (University of Minnesota) Minneapolis: My account of the White House Conference was, of course, only brought in to show you how my interest in the matter had been stimulated. Admitting all the good the Conference may accomplish, I still feel very strongly on the fact that the Children's Charter failed to have in it a paragraph stating that a child is entitled to be well born. Yet there is no word about heredity in the document which is to be the lode star of medicine and social work for, perhaps, another quarter of a century.

I take it that Dean Schwitalla agrees with Mr. Horton's views as to doctors and medical education. He said that. But I also take it that his remark about the student's record concerning diabetes ought to be interpreted that this student had not had proper instruction and not that he had had too much instruction. He had immature information from which he was not prepared to make legitimate conclusions.

The only other thing in my mind at the moment is to emphasize that you have to have a long point of view. Dr. Myers has expressed that thought, but with everything I have said elsewhere I used the term 1000 years instead of 150. I have said if humanity can only project itself and plan for 1000 years, it will do something it has never done before. Professor Jennings—he was one of Dean Schwitalla's professors at Johns Hopkins—has said that my figure is too small. He put it 3000 years. At any rate, this is not a thing you want to think about in terms of the lifetime of yourself or of your children. Things can be started that will go forward and have effect through long ages if they are made a part of the conscious effort of a great group, and my only thought is that the leader in that great group as regards heredity ought to be the medical profession.

Survey of Health Conditions Among Medical Students

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Since the opening of the school term in the fall of 1924, the annual physical examination has been a compulsory feature of the curriculum at the College of Physicians and Surgeons of Columbia University. Up to the opening of the present school term (1931), and including 104 students who presented themselves voluntarily for examination in the spring of 1924, 1124 students have been examined. This number includes 116 women (10.3 per cent). The purpose, nature and scope of this service have been described in an earlier report[1] and need not be gone into at any length here. Suffice it to say, that there has been little change or extension in the method of examination in the intervening time. Since its inception, the clinic has been conducted by one physician alone who has made about 3,000 examinations among this group. In 1928, the college moved from its old quarters in the midtown section of New York to the new Medical Center on Washington Heights. This shift led to several important improvements, namely, better examining rooms and equipment, better cooperation with clinics and laboratories, and various other desiderata which could only be achieved by a central grouping of resources.

The purpose of this report is to present a few figures gathered from the first examinations of these 1,124 students. No attempt has been made as yet to make a detailed analysis of these statistics with respect to correlation of findings, year to year changes, comparison by classes, etc. Any comments that follow in regard to health alterations during the medical course must be accepted as impressions and nothing more.

BACKGROUND—In reviewing the health habits and abnormalities of any group it is essential that proper consideration be given to the environmental background. Being situated in a large city, the College of Physicians and Surgeons necessarily draws its students mainly from urban communities. This fact is made evident by the discovery that 55 per cent live at their homes, usually in the city proper or in its larger suburbs. Of the remainder, 23 per cent are housed in dormi-

1. Heck, Edson B.: "Periodic Health Examinations among Medical Students." *Bull. Assn. Amer. M. Colls.* 2:296 (Oct.) 1927.

tories, usually those of Columbia University, and 22 per cent live in apartments with fellow students or in rooming-houses. 59 per cent eat at their place of residence, while 41 per cent depend on the irregularities of restaurant dining. On the economic side it is found that 5 per cent are wholly self-supporting and 29 per cent partly so; 6.4 per cent were married and many of these had children.

HABITS—69 per cent state that they take more or less regular exercise, although I suspect that in many cases the exercise is limited to walks to and from the subway. A small group, mainly the Columbia College graduates, make use of the college gymnasium and swimming pool. Others take advantage of nearby handball and squash courts. Outdoor exercise seems to be the exception.

Most students appear to get adequate sleep, although 11 per cent report having less than seven hours' sleep nightly. Long-distance commuting is a factor here. One man actually reported five hours a day spent on trains and subways! Sleep is usually reported as being satisfactory, except in the dormitory group who complain of noise and other distractions.

64 per cent use tobacco in some form. Excessive smoking (over 20 cigarettes a day) is rare. 20.5 per cent admit the use of alcohol, usually moderate and in the form of an occasional party. This figure obviously does not include all the occasional drinkers. 74 per cent drink coffee but only 20 per cent drink tea.

As regards their own feeling toward their general health, 61 per cent of the students report it as being good or excellent; 38.3 per cent, fair and 0.7 per cent, poor. 18 per cent had gained 5 lbs. or more in the year prior to examination, and 8 per cent had lost a similar amount. 86 per cent had visited a dentist within the previous year. In the preceding five years most students had had at least one health examination, often several, the result chiefly of college requirements. It is rather surprising to note that 41.5 per cent carry life insurance. Sixteen students (1.4 per cent) have in addition been rejected by life insurance companies, usually on the ground of albuminuria or hypertension. It was interesting to find that practically all of this group were free from these defects at the time of their medical school examination.

In a rough attempt to get some information concerning their emotional status, it was found that 31.7 per cent were subject to worry and anxiety, the chief contributing factors being studies and finances. A small number admitted periods of depression, inferiority feelings and general instability.

FAMILY HISTORY—As would be expected, the chronic degenerative diseases occupy first place. Cardiac, vascular and renal lesions have been grouped together. This complex occurs in 16 per cent of the immediate families. Tuberculosis is present in 4 per cent, cancer in 2.8 per cent and diabetes in 2.5 per cent.

PAST ILLNESSES—Tonsillitis is by far the commonest disease outside of the milder upper respiratory infections. It has been experienced by 40 per cent. The figure is probably too low, as many of the milder attacks have undoubtedly been classified simply as "sore throats." The two most disabling childhood diseases, scarlet fever and diphtheria, are recorded as occurring in 14.8 per cent and 12.6 per cent, respectively. 14.5 per cent have had pneumonia; 4.4 per cent have had pleurisy, usually as an accompaniment of pneumonia. There are only five histories of pleurisy with effusion. 4.4 per cent state that they have had rheumatism. It is difficult to say how many of these were cases of true rheumatic fevers. 4.7 per cent have had sinusitis. This figure seems too low. Without doubt many real cases of sinus involvement are classified as "colds." Of the allergic conditions hay-fever leads with 5.3 per cent. This figure also appears low, probably because many do not regard hay-fever as a disease. Asthma is next with 1.9 per cent; 4.1 per cent have had typhoid fever, 1.9 per cent jaundice and 1.1 per cent gonorrhea. Syphilis has been encountered but once. Ten students were said to have had pulmonary tuberculosis, all healed cases, while two have had tuberculosis of the bones or joints and one a tuberculous lymphadenitis. Of the less frequent conditions, poliomyelitis occurs ten times, chorea nine times, gall bladder disease five times, renal calculus four times, exophthalmic goiter three times, epidemic encephalitis twice and diabetes once.

OPERATIONS—In accordance with the high incidence of tonsillitis, 46 per cent have undergone tonsillectomy and 31 per cent have had adenoids removed as well; 6.4 per cent have submitted to nasal operations, usually submucous resection. The appendix has been removed in 11.2 per cent, generally during an acute attack of appendicitis. An additional 2 per cent have had appendicitis, so-called, without operation. 3.2 per cent have had hernia repairs and 1.9 per cent mastoid operations. There have been three uterine suspensions, three operations for removal of ovarian cysts and two for removal of benign breast tumors. Less frequent operations include gastro-enterotomy, nephrectomy and drainage of lung abscess.

RECURRENT COMPLAINTS—Most conspicuous of these are the upper respiratory disorders. 21.3 per cent regard themselves as particularly

subject to colds. Eyestrain, or notable defect in vision, occurs in 11.7 per cent; 11 per cent are prone to headaches, 10 per cent to indigestion and 5.5 per cent to constipation. 6.8 per cent speak of nervous complaints—palpitation, sweating, tremors, heart and stomach consciousness, vague sensations and the like.

Physical Examination

WEIGHT—This is found to range above the standard weight tables rather than below. 64.6 per cent fall into the medium weight class (from +10 per cent to —10 per cent); 20.6 per cent are more than 10 per cent above standard, 14.8 per cent are more than 10 per cent below. Obesity (over +30 per cent) occurs in 2.1 per cent, excessive underweight (under —20 per cent) in 1.6 per cent. The tendency is to put on weight during the four years of the college course, and it is my impression that the gains are greater than those found in the standard group of similar age.

BLOOD PRESSURE—The findings here are fairly consistent with those usually found in student groups, although the figure for hypertension (a systolic pressure of 140 or over) is a trifle high—13.5 per cent. Many of these cases can be discounted as the result of nervousness, and were found mainly in first year students who are usually more self-conscious and on edge than the more advanced students. Most of those with high readings gave normal figures on subsequent examination. Only two cases with extremely high and persistent hypertension were met with. These students had high diastolic pressures and early evidence of vascular sclerosis and may be classed as having essential hypertension, although one showed slight renal abnormalities as well. 74.8 per cent fell within the normal range (systolic 110 to 140), the mean systolic pressure being between 120 and 130. The systolic pressure was below 110 in 11.9 per cent and below 100 in 2.1 per cent. 3.7 per cent had diastolic pressures of 90 or over.

PULSE RATES—The mean rate is between 80 and 90. 69.9 per cent may be said to be normal (below 90); 0.8 per cent fell below 60; 30.1 per cent showed rates of over 90 and 15.6 per cent of over 100. The incidence of tachycardia is, of course, too high and may be explained on the same basis as the frequent hypertension. A common excercise test was used with the pulse rate as the chief criterion of response. Those whose pulse rates failed to return to the resting level within two minutes after exercise numbered 22 per cent. I have the feeling that this test is of little value in determining physical fitness. At least, I am unable to correlate it with any other standards of fitness.

EYES—Refractive errors make up the great bulk of ocular defects. Of those wearing no glasses, 7 per cent were found to have readings of 20/30 or less with both eyes, or where one eye was normal, a reading of 20/40 or less with the other eye. Some of these, particularly the latter group, had defects which were said to be uncorrectable. The others, for the most part, took advantage of the Eye Clinic and were properly advised. Of those wearing glasses, 14 per cent were unable to come up to the normal standard. Some of these had their lenses changed. Others, particularly the myopics, had been purposely left undercorrected. Cases of eyestrain or headaches resulting therefrom, but with normal vision, were usually referred to the Eye Clinic for further investigation. Diseases of the eyes have been infrequent. Chronic conjunctivitis has been the most common. Some of these cases have been associated with chronic nasopharyngitis or with seborrheic dermatitis of the scalp and eyebrows and have been improved with proper attention to the primary focus.

EARS—Hearing was defective in one ear in 6 per cent and in both ears in 3.4 per cent. A simple watch test was used as standard. When the defect was due to impacted cerumen prompt relief was obtained; when due to previous mastoiditis, perforation of the drum membrane or to chronic catarrhal otitis media, the therapeutic results have been less striking. High grade impairment has been rare, and there have been few students who have been seriously handicapped as a result of poor hearing.

NOSE—Nasal obstruction of sufficient degree to cause a complete or almost complete interference with breathing on one or both sides has been encountered in 19 per cent. The commonest causes have been a badly deviated septum, enlarged turbinates and polypi. Occasionally operation has been advised. This had been of striking benefit in some cases. In others, particulary where there has been an old fracture and where previous operations have been performed, the results have not been so good. Some of these cases have responded well to astringent sprays.

TEETH AND GUMS—Gross defects of the teeth—caries especially—have been noted in 5.3 per cent. From the standpoint of the dentist this figure would seem low. More careful examination would undoubtedly reveal more defects, especially those of a minor nature. No especial attention has been paid to malocclusion and other orthodontal defects. The gums left something to be desired in 3.2 per cent. There were few cases of frank pyorrhea, but a number of cases of

mild gingivitis, retraction, etc. As noted above, most students have had good dental care. When this was lacking, they were referred to private dentists or to the clinic.

TONSILS—The tonsils were considered abnormal in 27.3 per cent. This included those that were conspicuously large as well as those that appeared ragged, unduly cryptic or otherwise diseased. It also included unhealthy-appearing stumps from previous operations. Whenever the tonsils appeared to be open to suspicion, and particularly when there was an antecedent history of frequent colds and sore throats, the student was referred to the Nose and Throat Clinic for an opinion. A goodly number of tonsillectomies have been performed. The general effect has been to reduce the number of sore throats. Reduction in the number of colds has been slight in comparison. Many students have noted a general improvement in health since tonsillectomy.

THYROID—Glandular enlargement has been noted in 1.5 per cent, probably an average figure for a predominantly male group in this section of the country. For the most part, this has been due to nontoxic diffuse or nodular goiter. In two cases the enlargement was the residuum of postoperative exophthalmic goiter, both being females.

SKIN CONDITIONS—Acne, as expected, constitutes the commonest ailment in this field. It was of sufficient degree to be remarked in 6.7 per cent. The dermatophytoses account for 3.7 per cent. This figure would have been much higher if careful examination of the feet, particularly the interdigital spaces, had been made in all cases. The student body being largely non-resident, however, it is doubtful whether the incidence of ringworm of the feet would approach the proportion described in various colleges. Psoriasis was encountered six times. Other dermatoses, such as seborrheic dermatitis, were not reported unless they were especially pronounced. It is of interest to note that pityriasis rosea has been a rather frequent intercurrent disease among medical students.

HERNIA—Although many students bear scars, frank hernia has been observed only ten times. Most of these have warranted operation.

MALE GENITALIA—Varicocele was present in 3.2 per cent. Rarely has surgical intervention been necessary. Atrophy of the testis, invariably unilateral, has been met with fifteen times and has been usually the result of mumps. Hydrocele occured five times. Two students have been operated on for teratoma of the testis, both with complete recovery.

ORTHOPEDIC DEFECTS—Gross crippling of the extremities has been largely the result of earlier poliomyelitis. Other causes are badly reduced fractures, joint infections, etc. Sixteen showed sufficient deformity to warrant notice. Flat feet were noted in 13.8 per cent, apparently a high figure, but usually of the first degree variety. No account has been taken of various postural defects chiefly because of the difficulty of standardization due to wide variations in type.

HEART—Enlargement was noted in 1.3 per cent. All of these cases were those of simple slight hypertrophy unassociated with murmurs or other evidence of organic disease. Some might be classed as "athletic heart" but usually not. Valvular murmurs were found in nine cases (0.8 per cent). In four of these the mitral valve alone was involved, in five, both the mitral and aortic valves. Questionable cases of mitral insufficiency are not included. The only arrhythmia met with was that due to premature contractions. This occurred six times.

LUNGS—In all the 1,124 cases there was no case which showed serious signs of pulmonary disease. When tuberculosis was diagnosed, it was on the basis of history or x-ray findings. Rales, when encountered, proved to be non-parenchymatous on further investigation. Transient bronchitis was met with but nothing more serious.

ABDOMEN—Routine examination revealed little. The spleen was palpable in 1.8 per cent. No note is made of the frequency of palpable liver or kidneys.

EXTREMITIES—Varicose veins of the legs was encountered seven times, otherwise there is nothing of note. An occasional clubbing of fingers has proved to be of no significance.

RECTUM—Hemorrhoids, usually inactive, were reported in 2.8 per cent. Prostatic enlargement is rare and usually transient.

URINE—Albuminuria was present in 6.4 per cent of random specimens. The great majority of these were clear on examination of the early morning urine. A few have been found to be definitely orthostatic. Only one suspicious case of nephritic disease has been found. Glycosuria has been encountered in nine students (0.8 per cent). Further investigation with 24 hour urines and glucose tolerance tests has shown them all to be innocent. Two of them were definitely cases of renal glycosuria. The only diabetic in our series has never shown sugar on examination.

Microscopic examinations have not been done as a routine, but have been performed in certain selected cases where, for example, albu-

minuria was found, where there was a history of pyuria or where the student presented symptoms of urinary irritability.

Blood Examination—Complete blood counts have been made only when indicated. Hemoglobin determinations by the Talquist method have been done as a routine but have proved to be of little value, the yearly variations in many cases being too wide to prove anything but the inaccuracy of the method. Blood Wassermanns, ureas and sugars have been done only in special cases.

Other Tests—Tests which have been used as routine but later discarded after a fair trial as unimportant are temperature and vital capacity readings. Chest and abdominal measurements have been made as a routine and have been of some interest when correlated with weight losses and gains and with variation in muscular development.

A few general observations on medical student health would seem to be in order at this point. As a group, the incidence of disease and physical defects appears to compare very favorably with other collegiate groups. Although I have no data on the amount of time lost through illness, I have the impression that the average time out per student per year is much lower than that met with in industrial groups. It would also seem that the morbidity rate among medical students is lower than that found among student nurses. The factors controlling this relative good health are, I believe, as follows:

(1) These medical students form a carefully selected group. Each student is interviewed in person by the Dean before admission and those that are obviously unfit mentally or physically are not accepted.

(2) The great majority of colleges nowadays examine their students once or oftener during their course, informing the student of his defects and making some attempt at correction. Among the athletes, particularly, supervision is quite strict. This undoubtedly has a good educational effect and leads the student to take care of himself better than he ordinarily would.

(3) Contact with disease and therapeutics focuses the student's attention on his own deviations from normal and renders him more liable to seek aid when necessary. This is not an unmixed blessing as in those with a tendency to hypochondriasis it may have just the reverse effect and lead to unhealthy introspection.

General Health Status

The general health status of a student group can be estimated roughly by two methods. The first of these, the "time lost" method, has been mentioned above. According to this standard, the sickness

rate would appear to be low. Comparison with industrial groups is not altogether fair, however, as the tendency of the medical student, when he is sick, is to stick on the job; with the salaried worker, to take time off. Undoubtedly, many students who come to classes would be better off at home and in bed. Perhaps, a truer picture can be obtained by finding out how many students drop out each year because of ill-health. In looking over the records of the past six years, I find that out of 92 students who were compelled to leave school, 18 gave health reasons as an excuse, an average of 3 a year from an annual registration of about 420. A summary of causes follows:

Nervous conditions	5
Undefined illness	4
Pneumonia	2
Tuberculosis, real or suspected	2
Post-encephalitic syndrome	1
Teratoma of testis	1
Ectopic pregnancy and pneumonia	1
"Run down"	1
Rheumatism	1
	18

According to classes we find that 9 withdrew during the first year, 6 during the second, 3 during the third and none during the fourth. Of the 9 who dropped out in the first year, 4 suffered frank "nervous breakdown"; five had less definite symptoms which in some cases were unquestionably neurotic. The serious organic diseases invariably cropped up in the second and third years. Of the 18 withdrawals, 7 were subsequently able to return to school, and of these two have been graduated. Four still remain in school. There has been but one death during the school course, a case of accidental drowning during a summer vacation. Among those who left school, by graduation or otherwise, I have information on only five deaths. Two of these were accidental, one was due to tuberculosis, one to gastric ulcer and one to bacterial endocarditis.

Many of those in the first two categories of the above table were on the verge of scholastic failure and left just before examinations. Among these unfortunate cases the symptoms of ill-health were undoubtedly secondary rather than primary, and were the physical expression of their lack of adjustment to the prescribed routine.

This brings us to a very important health problem among medical students which is hardly tangible enough to be put into statistical form, namely, the reaction of the student to his new environment. The medical course is notoriously a grind. Certain students, after a desultory four years spent in college, come to medical school without any proper

knowledge of how to study. Others are temperamentally unfit for medicine or have only a half-hearted interest in the work. For these students the first year is mainly a period of adjustment. It is this year in which the scholastic mortality is by far the highest and also the year in which the greatest amount of ill-health, especially in the field of nervous disorders, occurs. Although the medical school suuplies the test, it is undoubtedly true that many of these students are badly adjusted to life in general and would probably stack up as less than average in any competitive career. Mental ability appears to be less important than emotional adaptation. In some instances men of high scholastic standing have been unable to stand the gaff. The net result has been the development of a fair sprinkling of neurasthenias, anxiety states, depressions and, occasionally, a frank psychosis.

I am aware that other factors entirely exernal to the study of medicine enter into the picture. It seems hardly necessary to mention the financial problems, domestic infelicities and other hardships that these students are faced with. In addition to their scholastic duties some of these students are working several hours a day outside and supporting families at the same time. These are the students who report having 4 or 5 hours sleep a night. Although it does not show up in the figures, I have reason to believe that many of them are also underfed.

When a student with such burdens has chosen to enter medicine as a profession, his problem is, of course, largely insoluble. It is surprising how many muddle through under the circumstances. Where the economic factor is less conspicuous and where the difficulty lies more in the personal maladjustment much can be accomplished through tactful handling of the situation by the examiner. Certain cases have been referred to various neuropsychiatrists with splendid results. In a service of this sort it would seem that there should be a man, who is especially interested in the emotional difficulties of students, to handle all problems of mental hygiene.

From the standpoint of actual disability, the upper respiratory infections account for the majority of absences and also constitute the main bulk of the complaints for which students visit the service. Colds, sore throats, grippe, sinusitis, tracheitis and bronchitis seem to occur with about the same prevalence found among the general population. It is interesting to note that the number who report sinus infections is increasing each year. Along with this increase a greater number are reporting past tonsillectomies each year. While the general incidence

of tonsillectomy is 46 per cent, in the last two or three entering classes the percentage would comprise about two-thirds of the students. The records show that sinus trouble is relatively, as well as absolutely, much more frequent in the tonsillectomized students; in fact, it is somewhat of a rarity to find a student who still has his tonsils reporting sinus disease. Whether the tonsils have been cleanly removed or whether tabs remain appears to make little difference. In most cases, moreover, the sinusitis has postdated the tonsillectomy. This observation is in line with that of others who have reported a greater susceptibility to sinus disease in tonsillectomized individuals.

Tuberculosis

The question of tuberculosis among medical students is one that has been of special interest to me, chiefly because of the oft-repeated assertion that medical students are particularly prone to this disease. I believe this is based largely on the unfortunate experiences of certain medical schools about a generation ago and has been usually attributed to an increased susceptibility through bad living conditions—too much work, insufficient sleep, improper diet and insanitary housing. A recent writer,[2] however, believes contact with diseased patients to be the most important factor. That there is considerable disagreement on the frequency of tuberculosis among medical students is made evident by the reports from a symposium on this subject at the last meeting of the Association of American Physicians.[3] Studies made in Philadelphia and Baltimore report a high incidence of tuberculosis among medical students. Fitz of the Harvard Medical School, however, states that the disease is encountered but rarely. More recently, Fishberg[4] has stated that he knows of no evidence that the disease is commoner among medical students than among other young men and women.

In our experience of seven years, pulmonary tuberculosis has been met with six times and only two of these individuals have been compelled to quit school. In one case there was doubtful activity. The diagnosis was made on the basis of an old, probably healed, lesion in an upper lobe which was revealed by x-ray. He never showed any clinical evidence of the disease or any physical signs. In another case x-ray examination was ordered simply because the student was underweight and looked below par. A small infiltration was found at one apex. A

2. Myers, J. Arthur: "Recent Facts on Transmission of Tuberculosis." *J.A.M.A.* 97:316 (Aug. 1) 1931.
3. Society Proceedings: Assoc. Am. Physicians "Tuberculosis in Medical Students." *J.A.M.A.* 96:2063 (June 13) 1931.
4. Fishberg, Maurice: Letter, *J.A.M.A.* 97:661 (Aug. 29) 1931.

summer of rest in a base hospital for incipient tuberculosis was prescribed. He returned the following year in excellent condition and remained so until graduation. A third case showed physical and x-ray evidence of tuberculosis following a complaint of pain in the chest. In spite of a later hemoptysis during anesthesia for an appendicectomy, he was able to carry on and to graduate. His last x-ray showed slight but definite signs of healing. Of the two students who were forced to leave school during the scholastic year one was able to return later and graduate but subsequently died of the disease, while the second transferred to another medical school in the West.

In two cases the disease announced itself by hemoptysis while the students were apparently in good health. It is interesting to note that, among these six cases, at the time of their last examination prior to the discovery of the disease only one gave a history that would make one suspicious of tuberculosis. The others all assumed themselves to be in good health. None had physical signs. Yet one of these men had a hemoptysis one month after his last examination and another two months after.

This brings up the question as to whether or not a routine chest plate should be made on each student as a part of his annual examination. How much undiagnosed tuberculosis would this reveal? The only data I have on this subject are those supplied by Fitz[3] who found that among 424 routine films taken among the Harvard students tuberculosis was detected but once. This seems a small number; nevertheless I feel that the procedure is entirely worth while and should be made an essential part of the examination if only because of the seriousness of the disease when it does strike. To date this test has never played a routine rôle in our service, but there is a possibility that it may be adopted in the future. X-rays have been ordered without stint where histories, general appearance and unusual chest signs have been suspicious, but fortunately practically all have given negative reports. In addition, and for their own interest, a good many students have themselves fluoroscoped or x-rayed during their course in tuberculosis. Tuberculin tests are made on a few students as a routine during their second year course in bacteriology. Many of these tests are repeated later during the fourth course in tuberculosis but as yet no data have been collected on the comparative incidence of positive reactions in the two years. Other features of the tuberculosis question which deserve comment are as follows:

(1) Among the 13 students who report tuberculosis in some form during their earlier life not one has developed pulmonary tuberculosis during his medical course.

(2) None of the 5 students with histories of pleurisy with effusion has developed tuberculosis.

(3) Although 44 report tuberculosis as having existed in their immediate families only one has developed tuberculosis while in school.

(4) In five cases of spontaneous pneumothorax which occurred during the college course none exhibited evidence of tuberculosis either at the time or up to his date of graduation.

Owing to a lack of follow-up system I have no way of knowing how many students have developed tuberculosis since their graduation. I have personally heard of only two but there must be others. This is a matter which deserves further checking.

Conclusions

After a seven years' experience in the direction of medical student health I am entirely convinced of its worthwhileness and feel that such a service should be a necessary part of every medical school curriculum. It is not that we are dealing with a physically inferior group or a group that is incompetent to care for itself in matters of health or personal hygiene. In fact, my experience has been that the reverse conditions are true, namely, that our students represent a relatively healthy aggregation of young adults who have been fairly well trained. There is always, however, a significant minority who do need attention and should have it. Minor ailments, errors of habit, needless anxieties comprise the bulk of the work handled by the examiner. Most of these are fortunately correctable. Serious lesions have been disclosed in a few instances. Discovery of such has been of inestimable value to the student. When special diagnostic and therapeutic attention has been considered necessary, physicians in other fields of medicine have been called on and have invariably cooperated cheerfully. The laboratories and x-ray department have offered easy access to students needing special tests.

The plans for the present year (1931-1932) include the appointment of an associate examiner and the extension of the examinations to cover the dental, as well as the medical, students. With the opening of Bard Hall, the new medical student dormitory, with its accommodations for 235 men, there should be enough students grouped together to afford a more standardized form of living and on a higher scale than

exists at present. It should lead to better general housing and eating conditions as well as offering facilities for regular exercise in a convenient location. Squash courts, a gymnasium and a swimming pool should meet the needs of those who really suffer the lack of opportunities for physical exercise and there are many such. The central location of the dormitory will also do away with a good deal of the subway commuting which in itself is an exhausting addendum to the medical student's day.

In conclusion, I wish only to state that in the field of student examination in general its application to medical students is quite unique in that we are applying a procedure to these men and women that they will themselves apply to others in their future work. The annual examination has, therefore, something of a didactic value that is unquestionably of benefit. Although no formal attempt is made to teach methods of examination, the stress being laid more on the student in his rôle as patient, it is hoped that the annual repetition of a purposeful examination will instill its importance into the student's mind. How many will continue this habit into later life I do not know. The periodic health examination is a comparatively modern idea. Its popularity is undoubtedly gaining. It is my feeling that the best way for a doctor to convince himself of its value to his patients is to religiously submit himself to the same procedure at least once a year.

Science and Service in a Teaching Hospital

MICHAEL M. DAVIS

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Medical education differs from almost every other form of professional and general education in that it involves direct service not only to students within the organization and to scientific research through the faculties, but that it also provides a direct service to the public. The educational scheme which trains some 20,000 medical students who will be the future practitioners of the United States, and which furnishes the chief existing centers for the advancement of medical knowledge is also giving direct service every year to several million citizens during illness. Legal or engineering education offers no parallel to this, nor does the "practice work" done with or on school children by students of normal colleges and university departments of education. The hospitals and clinics which are affiliated with medical schools stand as unique examples in modern society of institutions which render one of the most urgent and inspiriting of human services, while being at the same time imbued with the aims of science and, indeed, dedicated to it. This element of public service necessarily involved in modern medical education has certainly been one of the incentives to the immense gifts made in recent years to the hospitals and clinics affiliated with medical schools and to the schools themselves.

Much has been said of the transformation in medical education during the last three decades. The improvement wrought in standards and quality has been an outstanding service to and by the profession and a far-reaching contribution to the public welfare. The economic implications of this progress are also noteworthy. Twenty-five years ago many of the medical schools of this country were commercial enterprises maintained for the profit of their medical faculties, supported out of the fees of students, and with an educational standard so low as to merit the severe condemnation given by Abraham Flexner, in 1909, and by subsequent studies and publications of the American Medical Association.

Today, very few commercial medical schools exist in the United States. Nearly all are under university auspices. Nearly all are of good standard. No longer does a medical school earn profits; far from it. The medical schools now bring an immense cost upon the community. It is estimated that the 79 schools in the country spend about

thirteen million dollars a year of which only some 30 per cent comes from tuition fees paid by students. Thus the schools are supported mainly by gifts from individual pocketbooks or from government funds.

With these medical schools are associated over 300 hospitals and outpatient departments where the study and care of sick persons provide the practical clinical part of the physician's training. While more than half of these hospitals are used only incidentally by the schools, 126 are general hospitals and clinics with a close affiliation. The service and obligations of these 126 hospitals are worth special attention. They provide beds for some 56,000 patients. They represent a capital investment of about $273,000,000; they have endowments of over $100,000,000; their gross annual maintenance reaches about $120,000,000. They care annually for more than one million bed patients and for a still larger number in the outpatient clinics which most of them maintain. Practically speaking, the faculties of the medical schools have not only the task of training 20,000 students and of pursuing research, but also the responsibility for caring for more than two million sick human beings every year. These institutions are among the best hospitals and clinics in the United States. Of the three thousand general hospitals which are not associated with medical schools, a few, but only a few, rank with these 126 hospitals and clinics in their material facilities, their organization, and their high grade of service. The presence of keen-minded students is one of the factors which stimulate their staffs to the most thorough study of the patient.

The teaching hospital and clinic should of right have great freedom in selecting the patients whom it will admit. It offers special facilities and should use these to the best advantage for the educational and scientific purposes for which it is established. This power of selection can usually be exercised more fully by the privately supported teaching institutions than by those which are maintained by taxes. But once the patient is admitted to the hospital or the clinic, the responsibility of service to him rests equally upon all.

Until very recently the tradition of centuries limited the services of such organizations to the poor. It was assumed that only people who had to accept free medical service because they were destitute would submit to examination and other participation in the teaching of medical students. The work of the University of Chicago Clinics, of the Cornell Clinic, of the hospital and clinics of the University of Kansas, and that of other institutions have shown the fallacy of this tradition. They have demonstrated that a well-organized modern hospital and

clinic associated with a medical school offer facilities for diagnosis and treatment which are so exceptional in quality and character that they will be sought by sick persons of all economic classes. They have also made clear that patients of all economic groups will gladly allow themselves to be used in the education of medical students and for the advancement of medical knowledge. Medical teachers on their part have come to find that the intelligence and cooperation of the paying patient make him valuable to the learner and investigator of disease, and that high standards are promoted when service and teaching with paying patients are undertaken.

Fifty years ago an educated layman might have acquired some appreciation of the science and art of medicine by contact with his family physician. But modern medical practice has become much too complex and specialized to be appreciable through the medium of one personality. It is of great import that educated and influential persons, as patients in teaching hospitals and clinics, shall have direct contact with the apparatus and personnel of medical science and with the arts of its application, shall feel its results in their own bodies and know its significance in their minds. If every member of a legislature went through an effective experience of this kind, would that state be long troubled by anti-vivisection bills? Medical science and education must not only strive for advancement. They need also to interpret themselves to the public. The conclusion that teaching hospitals and clinics can serve the community and not merely "the poor" is of profound significance to medical education and to public understanding and support of medical science and of scientific medical practice.

It may further be held that once the medical care furnished by the organized facilities of a great teaching center is recognized to be exceptional in quality, the opening of these facilities for the diagnosis and treatment of disease to all sections of the community on financial terms consistent with the ability of each economic group to pay is not only advantageous to the institution, but is one of its obligations. Hundreds of millions of dollars are invested in teaching hospitals and clinics. Tens of millions of dollars are spent annually to maintain them. By their very nature they are dedicated jointly to science and to human service. Is it justifiable that only a small and perhaps not the most valuable section of the community may receive the unique services made possible by the use of this investment and by the highly trained men and women whose skill renders this investment vital?

Furthermore, the participation of paying patients in teaching hos-

pitals and clinics has the financial advantage of transferring some of the expense from tax funds or private philanthropy to the shoulders of persons who are benefiting directly by it and who are able and willing to pay according to their means. The financial issue is significant, for it is not reasonable to load burdens upon tax-payers or givers unnecessarily. But the issue of public policy is still more important. So long as it seemed that scientific and educational aims could be achieved only when teaching services were restricted to poor patients, this limitation could be defended. The two institutions previously mentioned and an increasing number of others have now demonstrated that this restriction is not necessary. From the standpoint of public policy, it is not desirable. Before long, public sentiment will not countenance it.

The combination of service and science is not easy. The demands of medical teaching and more particularly of research are intolerant of financial considerations. The integrity of investigation demands intellectual aloofness. The urge of the investigator evokes a high degree of specialization. Every-day human demands of the patient may be obscured. The need of informing the sick or the convalescent upon matters important to his recovery and equanimity may be forgotten. Nevertheless, the union of science and service within a modern teaching hospital is so clearly its goal, that this union must be striven for with the best efforts that the best minds can summon.

It is becoming increasingly apparent that the study of the personality, the mental, economic, and environmental factors in illness and therapy are often no less requisite to a scientific understanding of diagnosis and treatment than is the pathology of the disease. The increased attention of some medical men to these factors and the cooperation of the psychologist and the social scientist are essential to the solution of the problem and to the realization of the complete community responsibility of the modern teaching institution. Here lies a broad highway of progress, which physicians and social workers have entered, but which as yet is lightly trodden. The study of the patient in every aspect, of the man as well as the disease, is the intellectual counterpart of the public policy which brings all social classes to the institution. The one is as necessary to scientific medical practice as the other is to sound medical economics. The teaching hospital and clinic should be an example of both.

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American Medical Students in Great Britain

According to reports received from the General Medical Council of Great Britain there has been a considerable reduction in the number of applicants for admission to British, Scotch and Irish medical schools since the Fall of 1930 when all such applications were first sent to the secretary of this Association for evaluation of accompanying credentials.

In 1931 these applications numbered about 650. Thus far in 1932, less than 90 have been received—a falling off of more than 85 per cent.

The president of the Council, Sir Norman Walker, in his annual address, delivered in May, made acknowledgment of the assistance given the Council by this Association and the effect it has had on reducing the number of American applicants.

Herman v. W. Schulte

As the result of a short but severe illness, Herman von Wechlinger Schulte, professor of anatomy and dean of Creighton University School of Medicine, Omaha, since 1917, died July 13, aged 55. For a number of years Dr. Schulte had been a sufferer from cardiac asthma, but the immediate cause of death was an infection of the gallbladder.

During the term of his deanship, Dr. Schulte was a regular attendant at the meetings of the Association, except the last, when he was too ill to attend. He took a lively interest in the proceedings, and was an excellent companion at all times, although naturally quiet, and never forward. His many friends will miss him but will never forget him.

Too Many French Doctors

The belief that the number of physicians increases faster than the demand for them is apparent in the reports from Paris. The number of graduates of recent years corresponds to a total of 33,600 physicians, although the present total of 28,000 physicians constitutes for France one physician for a little more than 1,400 inhabitants.

It is generally recognized that the inability of certain medical schools of the United States to accept more applicants has resulted in the migration of a considerable number of young men for study in England and continental Europe, showing that there is an ambition on the part of young men to enter the medical field in excess of what appears to be a reasonable demand for physicians.

Forty-third Annual Meeting

The program for the meeting to be held in Philadelphia, November 14-16, is completed and will be mailed to the member colleges on October first.

Anyone who is interested in medical education and teaching is cordially invited to attend this meeting and participate in the discussions on the papers read. The program is a very interesting one, covering subjects that concern executives and teachers equally.

The local committee has completed its arrangements for the entertainment of the delegates and visitors.

A copy of the program will be mailed to any one who will not receive it as a matter of routine. Requests will be honored promptly by addressing the secretary.

College News

Columbia University College of Physicians and Surgeons

A three weeks' course in the theory and practice of physical therapy will be offered to qualified graduates in medicine, beginning Monday, September 12, and ending Saturday, October 1. This graduate course, which will follow the session of the American Congress of Physical Therapy, will be conducted under the direction of Norman E. Titus and his associates. Lectures and demonstrations of apparatus will be held the first week, clinical demonstrations, the second, and supervised clinical practice by members of the course, the third. Details as to course, time and place are given on page 329.

Beginning Monday, August 29, 1932, an intensive four weeks' course in Tuberculosis for physicians was begun, under the direction of Drs. James Alexander Miller and George G. Ornstein at New York Postgraduate Medical School and Hospital.

This course has been planned with the idea of presenting the problem of pulmonary tuberculosis in its many phases, and in a simple and logical manner. With this end in view the hours have been so arranged that the laboratory and relatively few didactic hours are immediately followed by and are intimately connected with clinical sessions illustrating the various points involved. Throughout the course emphasis is placed on actual case study. The matriculate will do most of the work himself on the hospital ward. More than 600 tuberculosis beds are available at Metropolitan and Bellevue Hospitals. Practically every type of case of chronic pulmonary disease with the various complications is well represented.

The course will be of four weeks' duration. A history of tuberculosis will be presented on the first morning. The seven following mornings will be spent at Bellevue Hospital, where gross and microscopical pathology will be presented. The afternoons of the first week will be entirely clinical. The remaining mornings of the second week will be spent in continued work in pathology and in the bacteriological laboratory. The afternoons of the second week will be given over to the clinical implications of the morning studies. There will be demonstrations of the various pathological types of tuberculosis with a correlation of the pathological and bacteriological principles and the clinical disease.

The third week of the seminar will be entirely clinical. The first three mornings will be taken over by a study of x-ray and fluoroscopy in pulmonary disease and the intestinal complications. The latter part of the week will be taken up with some of the problems of treatment of pulmonary tuberculosis. Among the topics to be discussed will be the use of tuberculin in tuberculous disease, the role of heliotherapy, the importance of diet, the position of the sanatorium in the cure of the patient. This last session will be spent at Loomis Sanatorium.

The afternoons of the third week will be given largely to the complications of pulmonary tuberculosis. Tuberculosis of the larynx, its pathology, diagnosis and treatment will be presented. Diabetes and tuberculosis, pregnancy and tuberculosis are the topics in the afternoon sessions.

The fourth week is also a clinical week. The first three mornings will be spent in the discussion and demonstration of surgical treatment of pulmonary tuberculosis. Pneumothorax, indications

for the various types of operations, such as phrenic evulsion, thoracoplasty and apicolysis, will be considered. This will be followed by a period in the operating room during which the various operations will be performed. This presentation will be given first at Bellevue Hospital and then at Seaview Hospital.

On the last morning of the course the management of an outpatient department for tuberculous patients will be reviewed. The afternoons of the fourth week will be spent in the study of chronic pulmonary diseases other than tuberculosis. One evening a week will be set aside for a discussion of some of the problems which have been previously gone over.

Fee: $100.

Following the meeting of the American Congress of Physical Therapy in New York City, September 6-9, a three weeks' course in the theory and practice of physical therapy will be given for qualified graduates in medicine by the College of Physicians and Surgeons, Columbia University.

PURPOSE: To acquaint the doctor with the proper use of physical therapy agents in the treatment of disease; the use of light, electricity, exercises, hydrotherapy, and massage.

INSTRUCTORS: Qualified teachers of physical therapy who are on the medical faculty and in charge of the physical therapy departments in several New York hospitals.

WHEN GIVEN: Beginning Monday, September 12 and ending Saturday, October 1. Daily 9 to 5 (Saturdays 9 to 12).

DIVISION OF TIME: First week, lectures and demonstration of apparatus; second week, clinical demonstrations; third week, supervised clinical practice by the members of the course.

WHERE GIVEN: Lectures—College of Physicians and Surgeons. Clinical work—Vanderbilt Clinic and Presbyterian Hospital (where during 1931 over 133,000 treatments were carried out), and in the physical therapy departments of reconstruction, Beth Israel, Fifth Avenue, and Beekman St. Hospitals.

FEE: $100. Class limited to twelve.

Indiana University School of Medicine

Resolutions of appreciation and a gold watch were presented to John F. Barnhill, Miami Beach, Fla., at the close of a graduate course on the eye, ear, nose and throat, which he conducted at Indiana University School of Medicine recently with the assistance of members of the faculty. Dr. Barnhill has been professor of surgery of the head at Indiana University School of Medicine for many years.

Willis D. Gatch, professor of surgery since 1911, has been appointed dean of the school to succeed Charles P. Emerson. Dr. Gatch has been acting dean of the school since Dr. Emerson's departure last fall to engage in the inspection of missions in the Far East on behalf of the Rockefeller Foundation. Dr. Emerson has been elected research professor in the medical school. He has been professor of medicine and dean of the school since 1911.

Emory University School of Medicine

An oil portrait of John G. Westmoreland, Atlanta, was recently presented to the school by Mrs. Julius L. DeGive, Atlanta, granddaughter of the physician. Dr. James L. Campbell, Atlanta, made the presentation address, and Dr. Russell H. Oppenheimer, Atlanta, gave the speech of acceptance on behalf of the university. According to an historical account of Atlanta Medical College, the institution was founded in 1854 "under the energetic leadership of Dr. John G. Westmoreland." This college is now known as Emory University School of Medicine. Dr. Westmoreland was professor of materia medica and therapeutics.

Western Reserve University School of Medicine

President Robert E. Vinson announced acceptance by the board of trustees of Western Reserve University of a grant of $25,000 from the Rockefeller Foundation, who have contributed frequently to the investigations of diseases caused by filtrable viruses, to be used for a scientific study of whooping cough in the department of medicine of the Medical School, in cooperation with Lakeside Hospital.

The study, which is well under way, will be conducted by Gerald S. Shibley, associate professor of medicine, and is planned to cover a four year period. It will include an effort to identify definitely the germ causing the disease, to develop methods of prevention of the disease, methods of accurate diagnosis, and means of specific treatment where the disease is established.

The department of medicine will have the cooperation of Dr. James Angus Doull, professor of Hygiene and Public Health of the School of Medicine.

Duke University School of Medicine

June 8, the eighteen members of the first graduating class of the Duke University School of Medicine received the degree of Doctor of Medicine. The degree of Bachelor of Science in Medicine was awarded to five students who had completed satisfactorily six quarters in the School of Medicine, had done creditable extra work in some one department and had written an acceptable thesis. In the School of Dietetics, two students who had completed successfully three and one-half years of college work and the required course of one year in the School of Dietetics received the degree of Bachelor of Science and the Certificate of Graduate Dietitian.

The graduating class planted ivy from Sir William Osler's home at Oxford at the entrance to the medical school. William Sydney Thayer, of The Johns Hopkins Hospital, and a former pupil of Sir William Osler's, made the address. Dr. Thayer also gave a clinic at the hospital on cardiac disease.

June 9, Dr. William D. Riley, of the U. S. Public Health Service, held a clinic at the hospital on Public Health Control of Syphilis.

At the commencement exercises of Wake Forest College, Wilburt C. Davison, dean of the Duke University School of Medicine, received the honorary degree of Doctor of Science.

June 20, the summer quarter commenced with eighteen students registered in the second year class, twenty-five in the junior and twelve in the senior class. Fifteen students are taking work at other medical schools this quarter, for which they will be given credit here.

Seven of the eighteen students who graduated in June are serving internships at the Duke Hospital, four are in hospitals in Baltimore, one in Atlanta, two in McKeesport, Pa., two in Worcester, Mass., one in Rochester, N. Y., and one at the Watts Hospital, Durham.

University of Virginia Department of Medicine

May 3, J. H. Neff spoke before the Southside Postgraduate Society in Hopewell, Virginia, on the subject of Malignancy of the Genito-Urinary Tract.

J. C. Aub, associate professor of medicine at the Harvard Medical School and Secretary of the Ella Sachs Plotz Fund, visited the Medical School May 6 and 7.

D. C. Wilson read a paper on A Typical Facial Neuralgia before the Section on Neuro-Psychiatry of the American Medical Association in New Orleans May 11. June 9 he presented this subject at the meeting of the American Neurological Association in Atlantic City.

H. W. Wade, formerly chief patholo-

gist to the Culion Leper Colony, P. I., at present medical director of the Leonard Wood Memorial Fund for the Study of Leprosy, visited the Medical School May 8.

E. P. Lehman represented Williams College at the Centennial Celebration Exercises of the University of Richmond May 12. May 16 and 18 he attended the meetings of the American Surgical Society in New Haven, Connecticut.

Franklin G. Ebaugh, professor of psychiatry at the Medical School of the University of Colorado and representative of the National Commission for Mental Hygiene, visited the school May 27.

At the meeting of the University of Virginia Medical Society May 23 H. E. Jordan spoke on Ovarian Gestation; J. E. Kindred gave a description of A Young Human Embryo; and C. L. Fifer gave an account of his studies of the Mammary Gland of the Rabbit.

June 2 H. E. Jordan addressed the University of Virginia Medical Alumni Society in New York City.

June 9 Dr. C. C. Speidel presented an account of his studies on Living Nerves during Growth and Regeneration before the American Neurological Association in Atlantic City.

June 14 a class of forty-nine students was graduated with the degree of Doctor of Medicine. Six additional students were awarded the degree of Master of Science, one each in surgery, psychiatry, physiology, biochemistry, pharmacology and histology.

Temple University School of Medicine

The degree of doctor of medicine was conferred upon 107 members of the senior class June 16. This is the largest class to graduate from the School of Medicine.

Honorary degrees was conferred upon Joseph H. Apple, President of Hood College, who delivered the commencement address, "Education for the Whole of Life"; the Rt. Rev. Francis M. Taitt, Bishop of the Protestant Episcopal Diocese of Pennsylvania; William Wayne Babcock, professor of surgery in Temple University; and William Carl Beyer, director of the Bureau of Municipal Research.

Ralph M. Tyson, of Philadelphia, was recently appointed professor of pediatrics, succeeding H. Brooker Mills, resigned.

An alumni luncheon and business meeting were held on Wednesday, June 15.

John A. Kolmer, formerly professor of pathology and bacteriology in the Graduate School of Medicine of the University of Pennsylvania, has been appointed professor of medicine.

Wm. Egbert Robertson, formerly professor of medicine, has been appointed emeritus professor of medicine in order that he may devote more of his time to research problems.

Additional faculty appointments:

William Henry Crawford, Edward D. Atlee and James Edward Bowman, instructors; Henry H. Perlman, demonstrator; Scott P. Verrei, Joseph Levitsky, Robert S. Heffner and Paul B. Bender, clinical assistants in pediatrics; Nicholas Gotten, lecturer in neurosurgery; Hugo Roesler, associate professor of radiology, will devote his time to research in cardiology.

Long Island College of Medicine

Alfred C. Beck has been appointed professor of obstetrics and gynecology, succeeding the late John O. Polak.

Edgar D. Congdon has been appointed professor of anatomy. For the past five years he was in charge of the department of anatomy at the Medical School of Chulalangkorn University, Bangkok, Siam.

There has been created within the department of medicine, a division of

preventive medicine and community health. This has been put in the hands of Alfred E. Shipley.

Harvard University Medical School

Faculty appointments: Frank A. Pemberton, clinical professor of gynecology; Everard L. Oliver, clinical professor of dermatology and syphilology; Edwin A. Locke, clinical professor of medicine; William C. Quimby, clinical professor of genito-urinary surgery; James B. Ayer, James Jackson Putnam, clinical professor of neurology; Walter Bauer, assistant professor of medicine; Frederic L. Wells, assistant professor of experimental psychopathology; Hugh K. Ward, assistant professor of bacteriology and immunology; Frank Fremont-Smith, assistant professor of neuropathology; Karl M. Bowman, assistant professor of psychiatry; John H. Waite, assistant professor of ophthalmology; James W. Lever and Marius N. Smith-Peterson, assistant professors of orthopedic surgery; Bronson Crothers and Charles F. McKhann, assistant professors of pediatrics; Augustus Riley, assistant professor of genito-urinary surgery.

Harris P. Mosher has been appointed Walter Augustus Lecompte professor of Otology and Frederick H. Verhoeff was appointed director of the Howe Laboratory of Ophthalmology. William P. Graves becomes W. H. Baker professor of Gynecology, emeritus.

Boston University School of Medicine

In recognition of the services of four senior members of the faculty and the staff of Massachusetts Memorial Hospitals, more than 100 of their colleagues gathered at a dinner in their honor in the University Club, Boston, June 22. The physicians honored were: Joseph Emmons Briggs, professor of surgery; Alonzo G. Howard, professor of orthopedic surgery; Wesley T. Lee, professor of dermatology, and Clarence H. Dobson, assistant in medicine. Dr. Briggs has been connected with the university since his graduation at the institution in 1890. Dr. Howard was graduated from the university in 1895, and Dr. Lee in 1898, and both men became associated with the school immediately after graduation. Dr. Dobson graduated from Hahnemann Medical College, Philadelphia, in 1897, and has been at Boston University School of Medicine since 1921.

Dr. Henry M. Pollock, superintendent, Massachusetts Memorial Hospitals, was toastmaster at the dinner. Speakers included Henry S. Grew, president of the board of trustees at the hospitals; E. Ray Speare, treasurer of the university trustees; Dr. Alexander S. Begg, dean of the medical school; Dr. Edward S. Calderwood, physician-in-chief of the hospitals, and Dr. Charles T. Howard, surgeon-in-chief.

McGill University Faculty of Medicine

With the announcement of a grant of $1,232,652 from the Rockefeller Foundation for the establishment of a neurologic institute, plans for the development of a neurologic center at the school were disclosed. The grant will provide for the construction of a new building, specially equipped for research in neurology, neurosurgery and the physiology and pathology of the nervous system. More than $150,000 has been pledged by friends of the university and members of the governing board. Dr. Wilder G. Penfield, professor and head of the department of neurology at McGill, has been selected to direct the institute. His associates will include Colin K. Russel and Frederick H. MacKay, clinical professors of neurology, and William V. Cone, assistant professor of neurologic

surgery, also a native of the United States.

The new building will be erected on a site opposite the present neurologic laboratories in the Royal Victoria Hospital building. The institute will be connected with the hospital and the pathologic building by an underground tunnel. Tentative arrangements provide for the erection of a seven story building to contain wards for public, semiprivate, and private rooms, operating rooms, research laboratories, offices, and a few rooms for resident graduate students.

George Washington University Medical School

The new laboratory building for teaching and research was recently completed. This building makes possible the reorganization of the fundamental scientific departments. With the remodeling of the old medical building, which will include segregating the departments of anatomy, pathology, physiology and pharmacology on separate floors during the summer, the school of medicine will possess facilities for advancing its program in medical education and investigative work. The new $75,000 structure will also house a central laboratory to serve the University Hospital and the clinical departments. Adjoining this is a fully equipped laboratory for the teaching of clinical microscopy, all under the supervision of a full time director who will develop this work in the department of medicine. The new building also provides a teaching laboratory for the department of bacteriology, hygiene and preventive medicine and offices and individual laboratories for the members of the department. The fourth floor communicates with the old medical school building, where will be located the department of pathology. The third floor of the new building will communicate with the department of biochemistry, while the second floor is connected with the medical library, now under the supervision of a trained librarian. Construction on a new addition to the University Hospital building began in May.

St. Louis University School of Medicine

Promotions: Alrick B. Hertzman, Ph. D., associate professor of physiology; Florent E. Franke, assistant professor of physiology; Alver H. Kerper, assistant professor of anatomy.

Dr. Joseph Mülzer of the University of Heidelberg was designated to receive the Carl Barck fellowship in ophthalmology, established a year ago. Dr. Mülzer will have special research duties in the new Firmin Desloge Hospital. Dr. Goronwy O. Broun was appointed director of the university hospitals.

University of Texas School of Medicine

Dr. John O. McReynolds, Dallas, has presented to the school a scientific exhibit relating to the crystalline lens system in man and the lower animals. The collection assembled by Dr. McReynolds consists of photographs and mounted lenses of the various species of the animal kingdom, and 300 cataract lenses removed in the capsule, together with slides illustrating the pathologic processes and the embryology of lenses.

Medical College of the State of South Carolina

Faculty appointments: Francis G. Cain and Archibald Johnston Buist, Jr., assistant professors of gynecology; Wythe M. Rhett, assistant professor of pediatrics; Joseph I. Waring, lecturer in pediatrics.

Personals

Presentation of a portrait of Robert R. Bensley was made to the University of Chicago, June 14, when a group of Dr. Bensley's students, colleagues and other friends gathered at a dinner given in his honor. Dr. Bensley is professor of anatomy in the Division of Biological Sciences at the university and has been a member of the department since 1901.

John Pascal Sawyer, professor of therapeutics and clinical medicine at Western Reserve University School of Medicine, has been made professor emeritus.

Martin H. Fischer, Cincinnati, received the honorary degree of doctor of science at the annual commencement of Wittenberg College, Springfield.

The honorary degree of doctor of science was conferred by George Washington University on Frederick Parker Gay, professor of bacteriology, Columbia University College of Physicians and Surgeons. G. Canby Robinson, dean, New York-Cornell Medical Center, and Alan Mason Chesney, dean and associate professor of medicine, Johns Hopkins University School of Medicine.

The honorary degree of doctor of science was conferred on Ross V. Patterson, dean of Jefferson Medical College, by Colgate University.

The University of Pennsylvania conferred the honorary degree of doctor of medicine on Alfred Newton Richards, Ph.D., professor of pharmacology in the school of medicine. William Pepper, dean of the school of medicine, and Barton Cooke Hirst, emeritus professor of obstetrics, received the honorary degree of doctor of science.

Frank C. Walker has been promoted to professor of diseases of women and head of the department of gynecology in Indiana University School of Medicine.

Esmond R. Long was awarded the Trudeau Medal by the National Tuberculosis Association, at its annual meeting in Colorado Springs, Colo.

William L. Russell, professor of psychiatry, Cornell University Medical College, has been selected to give the Thomas W. Salmon Memorial Lectures for 1933.

Lee M. Hurd, professor of laryngology, and John McCoy, clinical professor of laryngology, New York University and Bellevue Hospital, retire from active duty and become emeritus professors at the end of the current year.

A dinner was given to Walter R. Parker by his friends and colleagues on the occasion of his retirement as professor of ophthalmology in the University of Michigan Medical School, Ann Arbor. Dr. Parker, who has held the position for twenty-seven years, will be succeeded by George Slocum, his assistant for many years.

Portraits of Dean DeWitt Lewis, professor of surgery, and Hugh Hampton Young, clinical professor of urology, Johns Hopkins University School of Medicine, Baltimore, were presented to the university, June 14, at the annual commencement exercises. Both are gifts of colleagues, friends and former students of the physicians.

Chauncey C. Maher has been appointed assistant professor of medicine at Northwestern University Medical School.

Edward N. Packard, Saranac Lake, was elected president of the Medical Alumni Association of Syracuse University at the annual meeting, June 2. Albert G. Swift has been appointed professor of surgery to succeed Dr. Edward S. Van Duyn.

L. L. Daines, professor of pathology in the University of Utah School of Medicine, has been appointed dean to succeed Beryl I. Burns, resigned.

In connection with the presentation of the portrait of Dr. Walter B. Cannon to Harvard and the celebration of his twenty-five years of service as professor of physiology, a beautiful souvenir volume has been issued. It includes the addresses made on the important day by Drs. Edsall, Alvarez, Howell and Lusk, the acceptance address of President Lowell, and a record of Dr. Cannon's service, together with a bibliography of his writings. The book contains a reproduction of the portrait.

Charles F. Martin, dean of the Faculty of Medicine of McGill University, was elected vice president for Canada of International Committee for Mental Hygiene.

The honorary degree of doctor of laws was conferred on William Wayne Babcock at the commencement exercises of Temple University.

The honorary degree of doctor of laws was conferred on William N. Parkinson, dean of Temple University School of Medicine, at the annual commencement of Villanova College, Villanova, Pa.

John MacKenzie Brown, of Los Angeles, has been appointed professor and chief of the department of laryngology, rhinology and otology, in the School of Medicine of the University of Southern California.

The University of Cincinnati at its fifty-fourth annual commencement, June 11, conferred the honorary degree of doctor of laws on George J. Heuer, who recently resigned as Holmes professor of surgery in the college of medicine to become surgeon-in-chief of the New York Hospital and professor of surgery at Cornell University School of Medicine, New York.

Earl B. Ritchie has resigned as assistant professor of dermatology at the Graduate School of Medicine of the Division of Biological Sciences, University of Chicago.

Dr. H. G. Grant has been appointed dean of the Faculty of Medicine of Dalhousie University, Halifax, to succeed Dr. John Stewart, who resigned after many years of distinguished service. He also becomes professor of public health, succeeding the late Dr. W. H. Hattie.

Dr. F. A. Moss is no longer a member of the faculty of the School of Medicine of George Washington University, although he continues as professor of psychology in the University.

Beryl I. Burns, of Salt Lake City, has resigned as dean and professor of anatomy in the School of Medicine of the University of Utah to accept the position of professor and head of the department of anatomy in the Medical Center of the Louisiana State University, New Orleans.

Joseph Erlanger, professor of physiology in Washington University, received the LL.D. degree from the University of California.

O. Richard Bliss, professor of pharmacology in the College of Medicine of the University of Tennessee, received the LL.D. degree from Howard College, Birmingham, Ala.

Carl L. A. Schmidt, professor of biochemistry in the University of California, is visiting Germany under the auspices of the Oberlaender Trust for the purpose of investigating methods of organization and teaching of biochemistry in Germany.

Madge Thurlow Macklin of the University of Western Ontario Medical School, London, addressed the staff of the Cancer Research Laboratories, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa., May 31, on the subject "The Role of Inheritance in Human Neoplasms and its Diagnostic Significance."

Harvey Cushing received the honorary degree of D. Sc. from Northwestern University in June.

Theo. J. B. Stier, instructor in general physiology, has been appointed associate director of the laboratory of general physiology. John T. Edsall has been promoted to assistant professor of biological chemistry.

Arnold A. Zimmerman, assistant professor of anatomy in the College of Medicine of the University of Illinois, was a laboratory guest of the Wistar Institute of anatomy during July and August.

Frank R. Lillie, professor of embryology and dean of the Division of Biological Sciences in the University of Chicago, was the recipient of a D. Sc. degree from Yale University.

Frank P. Mallory, professor of pathology in Harvard Medical School, received the degree B. Sc. from Boston University.

Henry J. Spencer has been appointed director of the second medical (Cornell) division of Bellevue Hospital and assistant professor of clinical medicine in Cornell University Medical College.

Dr. Thurman D. Kitchin, president and dean of the department of medicine, Wake Forest College, Wake Forest, received the honorary degree of doctor of laws at the recent commencement at Duke University.

Dr. James Bell Bullitt, Chapel Hill, was elected president of the North Carolina Academy of Science at its recent annual meeting.

Herbert E. Chamberlain, director of the Minneapolis Child Guidance Clinic at Lymanhurst Hospital-School, Minneapolis, has accepted the position of associate professor of psychiatry at the University of Chicago.

Prof. Alexander Galloway of the department of anatomy, University of Saskatchewan School of Medicine, Saskatoon, has been appointed professor of anatomy at the University of Witwatersrand, Johannesburg, South Africa.

In recognition of the eighty-fifth birthday of Edward Laurens Mark, LL.D., Hersey professor of anatomy, emeritus, Harvard University, a dinner was given in his honor by colleagues, friends and former students.

Dr. James R. McCord, professor of obstetrics and gynecology, Emory University School of Medicine, Atlanta, Ga., began a six weeks institute in obstetrics, July 6, in several counties throughout the state.

Dr. Otis M. Cope, associate professor of physiology and pharmacology in the University of Nebraska, School of Medicine, has been appointed professor of physiologic chemistry in the New York Homeopathic Medical College.

Deaths

Orlando H. Petty, professor of diseases of metabolism in the Graduate School of Medicine of the University of Pennsylvania, died of a self-inflicted bullet wound, aged 58.

Arthur H. Cilley, assistant professor of clinical surgery, department of orthopedic surgery, and chief of clinic, Cornell University Medical College, died recently, aged 61, of pneumonia.

Michael Osnato, clinical professor of neurology in Columbia University, died, aged 45.

Thomas A. Coe, assistant professor of medicine in the University of Pennsylvania Graduate School of Medicine, died of heart disease, aged 53.

Paul J. Gelpi, formerly professor of genito-urinary diseases and cystoscopy in the Graduate School of Medicine of Tulane University, died, aged 57.

Frank P. Underhill, professor of pharmacology and toxicology in Yale University School of Medicine, died of nephritis, aged 55.

George A. Moleen, professor of neurology in school of medicine of the University of Colorado, died of heart disease, aged 55.

Graham Lusk, for more than twenty years professor of physiology at Cornell University Medical College, aged 66, died, July 19, in a hospital where he had been ill about a week.

Charles G. Lucas, clinical professor of gastro-enterology in the School of Medicine of the University of Louisville, died in July of heart disease, aged 63.

Neal L. Hoskins, associate professor of medicine in the Detroit College of Medicine and Surgery, died, aged 55.

General News

University of Porto Rico School of Tropical Medicine

George W. Bachman, Ph. D., associate professor of parasitology, has been appointed director of the school. Dr. Bachman succeeds Dr. Earl B. McKinley, who resigned to become dean of George Washington University School of Medicine. He was also promoted to a full professorship in parasitology.

Hermann Biggs Professorship

The late Mrs. Frances R. Biggs, widow of the late Dr. Hermann M. Biggs, bequeathed $100,000 to New York University to increase the funds for the Hermann Michael Biggs professorship of preventive medicine.

Arno B. Luckhardt Fellowship

Through the efforts of Dr. Anton J. Carlson, chairman department of physiology, Graduate School of Medicine of the Division of Biological Sciences of the University of Chicago, a fellowship in honor of Dr. Arno B. Luckhardt, professor of physiology in the school, has been founded. Dr. Carlson made the initial contribution toward a fund of $30,000, or more, so that the annual amount of the fellowship will be at least $1,500. Appointment to the fellowship will be vested in the department of physiology.

Passing of William Wood and Company

Announcement is made by The Williams and Wilkins Company of Baltimore of its purchase, on June 16, of the inventory assets of William Wood and Company, medical publishers of New York City. Good will and use of the Wood name and imprint is included in the purchase.

The firm name will be perpetuated under the new arrangement, and for the present the business of William Wood and Company will be conducted from 156 5th Avenue, New York. It is probable that ultimately the business will be transferred to Baltimore. Raymond Williams, manager of the Wood Company, and Dr. Elwyn Clarke, traveling representative, will continue their association in the same capacities.

American Board for Ophthalmic Examinations

The next examination of this Board will be held in Montreal on Monday, September 19.

Necessary applications for this examination can be procured from the Secretary, Dr. William H. Wilder, 122 South Michigan Avenue, and should be sent to him at least sixty days before the date of the examination.

American Board of Dermatology and Syphilology

At the recent meetings of the American Dermatological Association and the section of Dermatology and Syphilology of the American Medical Association, four members were elected from each organization to be members of the new American Board of Dermatology and Syphilology.

The first meeting of the Board was held in New Orleans May 11, 1932, and the following officers were elected: Dr. Howard Fox, New York, president; Dr. William H. Mook, St. Louis, vice president; Dr. C. Guy Lane, Boston, secretary; Dr. George M. MacKee, New York, treasurer. The other members of this Board are: Dr. Harold N. Cole,

Cleveland; Dr. Howard Morrow, San Francisco; Dr. Jay F. Schamberg, Philadelphia; Dr. Arthur W. Stillians, Chicago.

The Board is at present in the process of organization and incorporation and it is expected that the activities of the Board will actually begin some time during the coming winter. The Board is at present investigating the procedure of the other three boards already formed; namely, the Ophthalmological Board, the Otolaryngological Board, and the Board of Obstetrics and Gynecology, and it is planned to follow, in general, the methods developed by these boards.

Congress on History of Medicine

The ninth Congress of the International Society for the History of Medicine will be held in Bucarest, Rumania, in September. Subjects chosen for discussion are the evolution of medicine in the Balkan states and the protection of Europe against bubonic plague.

Those who wish to read papers are requested to send the title and a summary of their papers as soon as possible to the office of the congress, Bucarest II, Str. Stirbey Voda, 86. Lectures are limited to forty-five minutes and explanations to fifteen minutes and may be in English, French, German, Italian or Spanish.

George Strong Derby Fund

Contributions to a permanent fund to be established at the Massachusetts Eye and Ear Infirmary, Boston, in memory of Dr. George Strong Derby, are being collected. Dr. Derby, until his death, Dec. 12, 1931, was Williams professor of ophthalmology at Harvard University Medical School. The income from the fund will be devoted to projects in which he was interested; at present, it will be used toward the salary of a social worker engaged in the care of patients suffering from glaucoma. Other purposes will be determined from time to time as recommended by the staff of the infirmary and authorized by the board of managers.

Prize in Medical Jurisprudence

An annual prize in medical jurisprudence will be established at the University of Sydney, Sydney, Australia, in honor of the late Dr. Robert Henry Todd, as soon as sufficient funds are available. Dr. Todd was lecturer in medical jurisprudence at the university for twenty years.

Hospital for Negroes

The cornerstone of the new home of the Provident Hospital which is the building formerly occupied by Chicago Lying-In Hospital, was laid recently. In a cooperative program between the hospital and the University of Chicago, it is planned to develop this institution into a medical education center for Negroes. This program includes the care of the sick, clinical instruction for medical students, an increase in the number of internships for Negro physicians, graduate medical training, opportunities for Negro students for teaching and research. In 1930 a fund of $3,000,000 was subscribed for the development of this center. Provident Hospital, now at 16 West Thirty-sixth Street, was founded in 1890 and has since been an important center for medical work among Negroes of the community. Rear Admiral Norman J. Blackwood, medical corps, U. S. Navy, retired, has been appointed medical director.

Heart Clinic in Syracuse

The first heart clinic in Syracuse was started recently by the Onondaga Health Association. The plans for this clinic, which is held at the Syracuse Free Dispensary, were developed by a committee of physicians and laymen. Dr. Edward

C. Reifenstein, professor of clinical medicine, Syracuse University School of Medicine, is chief of staff for the clinic. The Milbank Memorial Fund contributed an electrocardiograph, a basal metabolism apparatus and other equipment to the clinic.

Columbia University Regulations for the Degree of Master of Science in Postgraduate Medical Education

The university grants recognition for acceptable postgraduate work in the clinical specialties by means of the degree of Master of Science. This degree is non-specific, i.e., it does not carry a designation of the special field of study to which the student has devoted himself. Only a broad definition of requirements is stated in order to permit flexibility in the training for the various clinical specialties and adaptation of that training to the needs and preparation of each student. The specific requirements for each of the specialties are formulated by the departments concerned.

Requirements for Admission. Applicants must present evidence of:

1. Graduation from a medical school approved by Columbia University.

2. Completion of an internship of not less than one year after graduation in a hospital approved by Columbia University.

Students will be registered only upon the recommendation of the department in which the work is to be done.

Advanced Standing. Students who offer work pursued in other universities, laboratories or hospitals for part fulfillment of the requirements for the degree as hereinafter set forth should file a certified statement of such training with the Secretary of the Administrative Board on Postgraduate Studies in Medicine.

Requirements for the degree.

1. A period of study after the internship of not less than three years in the University or in hospitals and laboratories recognized by it, at least one calendar year of which must be spent in this University.

2. Such intensive graduate training in the basic medical sciences of anatomy, embryology, physiology, biological chemistry, pharmacology, pathology, bacteriology, and in other fields of science as shall be recommended by the departments concerned.

3. An active experience during the three year period of not less than eighteen months in the hospital, clinics, and diagnostic laboratories of the specialty elected.

4. Written, oral, and practical examinations and a dissertation may be prescribed in the specialty elected and in clinical, laboratory, and public health fields to which the specialty is related.

Degree of Ph. D. A student admitted to the University for postgraduate medical training may become a candidate for the degree of Doctor of Philosophy if he meets the requirements for that degree that are prescribed by the Faculties of Political Science, Philosophy, and Pure Science, announcements of which may be obtained from the Secretary of the University, Morningside Heights.

Himalayan Research Institute of the Roerich Museum

In a distant land amidst the white summits of the Himalayas, an American institution, the Roerich Museum of New York City, has its outpost of science, called Urusvati, with one of its main objectives the study of ancient Tibetan pharmacology which is thought by some to possess properties militating against the development of cancer.

Thus far, the endeavors of the institute have been highly gratifying. Remarkable finds of rare medicinal plants known since ancient times to Hindus, Tibetans and Chinese for their great curative properties, were brought back from heights ranging from desert plains

to altitudes of 18,000 feet in the uplands of Tibet, the heart of Asia, by the various botanical expeditions arranged by the institute. Contrary to the alpine flora, the plants and flowers abound on elevations up to 18,000 feet not as dwarfed, but giant plants in most brilliant colors. Collections of plants and seeds have already been sent by the institute to the Botanical Gardens, New York City, Michigan University and the Jardin des Plantes, Paris. Extracts of some of the medicinal plants are in the process of investigation by physicians and biochemists of American and European cooperating institutions.

A most valuable collection of ancient medical books on Tibetan pharmacology and therapy was also obtained from remote lamaseries and will be translated by Dr. Georges Roerich, Director of the Himalayan Research Institute.

Of particular interest is the fact that a thorough investigation of the local conditions existing in this part of India yielded the information that the ravages of cancer are apparently unknown in Lahul. The records of the local British dispensary for the past few years confirmed this fact. The apparent absence of cancer is all the more interesting because the indigenous tribes live without any sanitation or knowledge of hygiene. Their food is spicy, they smoke heavy pipes and they drink a considerable amount of a kind of strong beer called "lugri."

An extensive study of the cause of this apparent freedom from cancer is being pursued by the institute. The institute intends to investigate not only the plants constituting the pharmacology of this district, but also all the roots, vegetables and leaves which make up the diet of the natives, as well as the waters which flow from the eternal snows of the Himalayas.

Abstracts of Current Literature

Lord Moynihan on the Advance of Medicine

In his Romanes lecture at Oxford, Lord Moynihan, president of the Royal College of Surgeons, said that surgery had almost reached the end of its progress along the lines which it so far had followed. The most extensive and delicate operations were carried out on every organ in the body, including those only recently made accessible, with a success that not even Lister himself could have believed possible. New methods of treatment might no doubt appear in their further development, but so long as cutting operations of the kind now practiced had to be applied, it was hardly possible that their success could be improved on except through increasing the patient's powers of resistance by preliminary preparation.

Heretofore surgeons had been engaged in discovering methods of dealing with structural diseases by mechanical devices. Now they must concern themselves with recognition and correlation of those manifold bodily ailments which result from changes in the function of organs. Patients sought their aid only, as a rule, when something had gone seriously wrong. Hospitals were filled with examples of advanced disease. What would surely advance their knowledge and perhaps lead on a large scale to prevention of disease was hospital research on those suffering from slighter ailments.

At present, research work and clinical inquiry were conducted at far distances from each other by men who rarely met. Experimental work should more often be suggested, and even carried out, by those whose experience in clinical work has shown them exactly where investigation might become most profitable. Physiology today was unhappily losing the close relation it had formerly had with clinical medicine. The cleavage was all to the advantage of physiology, all to the detriment of clinical medicine. Physiology had wandered away on its own researches. Its biologic inquiries had been conducted almost exclusively on animals, though during this time the surgeon had gained incalculable victories for clinical medicine. In the future the physiologist and the surgeon should make a common attack on the innumerable mysteries of disease.—LONDON LETTER, *J. A. M. A.*, July 2, 1932.

Prospects of Medical Students in Germany

The Verband Deutscher Medizinerschaften has published notes on overcrowding in the medical profession. The following facts are emphasized: The course in medicine from the beginning of study up to the time of obtaining a license to practice comprises seven years; eleven semesters of study, one semester for examination, and one year internship, cost the student about 10,000 marks, or $2,380, and the state contributes a like sum. Unless a physician is admitted to panel practice, a modest income is at present almost impossible in Germany. There are restrictions governing admission to panel practice; for instance, there may not be more than one physician to 600 insured persons. This proportion has already been reached; hence new admissions are made only to fill vacancies. A preliminary period of three years during which new entrants must serve as assistant physicians has been agreed on between the leagues of the medical organizations and the *krankenkassen*, or sick benefit associations. The number of existing assistantships is, however, inadequate for the carrying out of

the agreement thus entered into. A portion of the applicants must, therefore, accept positions as unpaid volunteers or wait for an opening.

The fees for the treatment of the insured members of sick benefit associations are exceedingly low. In addition to the medical care proper, there is considerable clerical work required by the *krankenkassen*, for which no additional compensation is granted. It is, however, almost impossible for a young physician to build up an adequate private practice that will relieve him of the necessity of accepting panel service. There are few communal, provincial and federal positions, and vacancies are rare.

According to the statements of eminent investigators, the medical profession can absorb no more than from 1,100 to 1,200 oncoming physicians each year without disrupting the profession by the unduly accentuated struggle for existence. The new medical students enrolled for the past few years have greatly exceeded the estimated number of assimilable young physicians: 1928-1929, 3,350; 1929-1930, 3,795; 1930-1931, 4,267. During the past three years, 7,800 more medical students than needed have received training. The number of medical students, however, continues to increase, whereby the number of physicians without adequate income is increased by further thousands.—BERLIN LETTER, *J. A. M. A.*, July 2, 1932.

Medical Education

The first two years of the instruction in the modern medical school is given largely to anatomy, physiology, chemistry and perhaps pharmacology. When the student begins his studies of diagnosis, medical and surgical, his ideas of topographic and applied anatomy are vague. When, in the laboratory, he studied the tendons of the wrist, he had little thought of the application of this knowledge to surgical practice; when he begins, clinically, to examine the blood, not only is the procedure new but the histology itself comes to him almost as a new subject. When in connection with the study of pathologic changes of function, the student begins to consider physiologic problems in the human being, the relationship of that which he has observed in the laboratory on animals a year previously is by no means always clear.

The criticism is common that teaching of applied anatomy and physiology is neglected in the preclinical departments, that the professors of anatomy and physiology should always be surgeons or physicians, and that, in a medical school, instruction in anatomy and physiology should be carried on from the outset with an eye to their relation to medical and surgical problems.

There is truth in the assertion that the division between the abstract scientific and the applied clinical teaching is too sharp in most of our schools. I hope that one day this may be remedied. It seems to me, however, that the remedy lies not in changing the character of our departments of anatomy and physiology but in better cooperation. The teaching of topographic and applied anatomy and of applied physiology, such, for instance, as the demonstration of the percussion of the outlines of organs in the living human being, of the methods of appreciating the respiratory sounds or those produced in the cardiovascular apparatus and their physical explanation, are not, and should no longer be regarded as the duty of the anatomic or physiologic department. They should be taught by the clinical departments in closer cooperation with instruction in the preclinical branches than they now are. The day must come when, in well-ordered schools, study of the anatomy of the heart and lungs may be accompanied by the demonstration to the student of methods of determining these things clinically; when, for instance, in association with the consideration of the physiology of

the respiration, the physics of the circulation and the character of the heart sounds, the student may make use of the ordinary clinical procedures by which we explore these functions. There are opportunities here for better cooperation.

I am not, however, in sympathy with those who would turn back to the old methods of teaching anatomy and physiology as purely applied sciences. One of our main objects should be to impress on the student that the clinician must reason for himself in a scientific fashion.

I am not inclined to feel that it is in any sense necessary for a professor of anatomy or physiology to be the holder of a degree of Doctor of Medicine, although I believe it to be wiser and better that he should. The intelligent man who has been through a regular medical course certainly loses nothing by it, and gains a better appreciation of the problems which his students are to confront later in life.

I am therefore not in sympathy with those who criticize fundamentally the teaching of anatomy and physiology by men who are not Doctors of Medicine. While, other things being equal, a medical degree is desirable, it is not the degree that is important, it is the man. That the professor should be an unselfish, scholarly investigator with a human interest in his students and the capacity of stimulating them in their work —that is the essential point.

The placing of the responsibility for the direction of the clinical branches on university professors whose main interest is in the development of their departments has been an unmixed blessing. The necessity for an adequate clinical staff in the university medical school is becoming generally recognized. Such a staff is far better selected by a university professor than it used to be when it flowed automatically through channels walled in by rigid rules of seniority and order of progression.

A criticism occasionally made of modern medical instruction is that the multiplicity and refinements of newer diagnostic methods have brought it about that the systematic teaching of the simpler procedures of physical diagnosis by experienced men has been somewhat neglected. The basis of the diagnostic art lies in the ability of the practitioner to use his five senses and properly to reason on his observations. Accurate training in those clinical procedures which can be practised without instruments or with such simple instruments as those used in auscultation and percussion, and in the ordinary routine examination of eyes, ears, throat, blood, and of the secreta and excreta, is fundamental. The art of using one's eyes and ears and hands skillfully, and of reasoning intelligently on the information so gained, the art of physical diagnosis in the stricter sense, can be attained only by the efforts and experience of the individual; it cannot be gained by reading books or listening to lectures. But it is not likely to be attained by the individual without assistance; it is not likely to be attained unless the student is, to a considerable extent, guided by teachers who, themselves, are adepts.

The teaching of physical diagnosis is not merely a question of the inculcation of a technique; the student should be led systematically to work out for himself the diagnosis of each one of the important pulmonary and cardiac lesions from signs observed by him or elicited by his technical skill in auscultation and percussion and interpreted by sound physical reasoning on the basis of his own pathologic knowledge.

Every graduate of medicine should be adept in the art of physical diagnosis and at home with the simpler laboratory technique.

A criticism of American medical teaching which is not uncommon is that we are bound too closely by rigid curricula.

Many have looked forward to the day when the student may take his time,

passing from school to school as he will, and pursuing his course under such instructors as he may choose.

This has not been possible in the past, owing, largely to the lack of standardization of our schools, and because in many, with the limited clinical advantages, the class system is necessary, for the size of classes must be limited.

Another defect of the class system is that, with a four years course, it is quite impossible to cover so large a part of the field of medicine as one would. It is a pity that, if the student so desires, he may not spend a longer period as an undergraduate and give more time to the study of special branches of medicine or surgery before taking his degree. In a four year course, however, we can offer opportunities to acquire a good basis only in the main branches of medicine, and, as it is impossible to give more than a smattering of instruction in *all* the special branches, there must be a good deal of elective freedom.

Interestingly enough, the response of students to this increased elective freedom has brought home to some observers the relative immaturity of our students, and has impressed on them the realization that, with our present premedical requirements, the student who enters even our better schools, is, very often, at a stage of educational and mental development in which he needs careful guidance and advice as to the character and sequence of the courses which he selects.

Further, it is extremely important that in selecting university professors we remember that while occasionally a berth must be reserved for the rare student and investigator who needs protection and, as it were, an asylum in which to pursue his exceptional research, yet, in most instances, the abilities of the candidate as an inspirer and a leader of men, as a teacher in the best sense of the word, his character and his personality should never be forgotten. Not for his discoveries or his publications alone should a man be made a professor of medicine.—W. S. THAYER, *J. A. M. A.*, July 2, 1932.

Politics in the Medical Schools in Argentina

Ever since 1918, medical students of Argentina have been enthusiastic about reforms in medical education. The reformers do not approve of the new regulations in the schools. Whenever any of the supporters of the so-called university reform are questioned as to its purpose, the answer differs in each case. Theoretically the following are the principal aims: (1) to give the student body certain rights in the management of the schools; (2) to develop scientific research and to intensify practical teaching; (3) to give the students a broader understanding of life in preference to professional knowledge; (4) to help free the oppressed and to carry on the social redemption of humanity; (5) to give the opportunity to teach to all of those properly fitted, and (6) to provide for professorships of six years without right of succeeding to the same position.

In the schools of Rosario the students do not recognize presidents, although they have head commissioners and secretaries. The student body frequently calls strikes on various pretexts. As a rule, the leaders of the strikes are students of the lowest scholastic standing. Some of them have been attending the schools for ten or fifteen years. Students, with some exceptions, are only the "tools" in the hands of politicians and of some professors. As a rule, the teachers who are supporters of the reforms have both poor morals and poor knowledge. The students are registered preferably with a privat-dozent who is not strict in demanding attendance at practical work. They demand that their attendance five or ten times be accepted to cover the

entire term. The last demand may explain the fact that some of the first year students, who have not finished the study of anatomy, have already finished the practical and clinical work required during the entire course of medicine.

The reformists also wish that the fees for studies be completely abolished (they now pay an amount which represents only 20 per cent of the total expense to the university), they wish the examination for admission to be omitted, and they are decidedly opposed to the restriction of the number of students. This state of affairs has created an antagonism between professors and students. If the faculty does not grant the students' claims they immediately call a strike and attack the faculty. These conditions lower the standards; the clinical work is not continuous; there is no constant contact between professors and students since the attendance is not regular; the subjects are covered in two or three months, especially the month before the examinations; the students have poor notebooks; hospitals are attended by few students, and the students live in an environment of disrespect and disorder. Many of them obtain their medical degrees without having the necessary preparation.

During the election of professors to the faculty, the students act under the influence of either bad professors or young physicians who, not having as yet a good clientele, try to obtain a chair in the faculty, a position as head of a ward hospital, or popularity to gain political positions. To obtain the votes of the students they offer them anything. It has been said that the triumph of some candidates in some elections has been secured by bribing the students. During the elections the candidates spend large amounts of money, even 20,000 or more pesos (about $17,200); they install electoral booths in houses near the faculty; they give money to students; they rent fifty or sixty automobiles so that they can send for their student friends to vote to support the candidates.

Every year there is trouble caused by this state of affairs, which compels the board of directors of the faculties, either partially or as a whole, to resign. The studies are discontinued almost every year during one or two months and then resumed. It is easy for the students to carry on with this system of violence because some of the daily papers help them. Both politicians and members of the government try to win the good will of the students, but this does not help because the students favor them only for the time they are granting their demands. It is hoped that this system may be improved on by means of better teaching given by full time professors, the continuation of research and the restriction of students by careful selection. Trips of students abroad will probably produce a favorable reaction in the student body.—Buenos Aires Letter, *J.A.M.A.*, July 21, 1932.

Early Obstetrics in Turkey

Prof. Besim Omer Pasha, head of the department of obstetrics at the medical school, where he has been teaching now for forty-seven years, has recently added to his many publications a small book on the history of obstetrics in Turkey. It has been written for laymen and midwives. Among the fifty illustrations are those of some early western and eastern methods in obstetrics; in connection with the early practice of obstetrics in Turkey, three are especially picturesque: One is the preparation of the floor bed with a charcoal brazier at the side in a room with latticed window, under which there is the customary low settee. The second shows the old midwife taken from her home at night to attend a birth, mounted on a donkey and accompanied by the husband of the woman to be confined, who is carrying the lantern, and by the

night watchman, who is carrying the specially constructed chair on which the parturient is to be placed. The third shows a case of asphyxia neonatorum with the midwife placing the dead child on a small table; the placenta, with which the child is still connected, is placed on a grill over a charcoal brazier, and the midwife is trying to bring life back by blowing air into the placenta with a pair of bellows.

An interesting account is given from the pages of Evliya Tchelebi, an ecclesiastic of high rank, of Esmahan Kaya Sultan, a daughter of Sultan Murad IV (1623-1640), who died during childbirth at the palace on the Golden Horn. Of this event we read that "forty persons had been reading the Koran from beginning to end, 40,000 prayers had been said during the night, a generous amount of money had been distributed among the poor, and 500 women and children who had spent the night at the gates of the palace waiting for news had been provided with new clothing. Great was the joy of the people when the birth of a daughter was announced; but when it was learned that because of an oversupply of adipose tissue the placenta was sticking to the heart of the lady sultan, their rejoicing turned into infinite sorrow. That the placenta might be delivered, the lady sultan was put into a kelim and swung right and left; she was twice hung up with her head down and then was put into a honey barrel filled to the brim with orange blossom water; when after three days the placenta was still not forthcoming, one of the midwives oiled her hand and arm with almond oil and inserted her hand and arm up to the elbow into the pelvis; after a few moments she produced a piece of tissue, saying 'at last the placenta.' A second midwife said 'there should be more of it.' Then she introduced her hand and brought out additional pieces of tissue. Undergoing such torture, the mighty Sultan's beloved daughter closed her eyes for ever the next day."

Then the author gives a short description of superstitious practices in connection with complicated births among primitive peoples, and of obstetric practices in Turkey before the days of trained midwives. At that time when the only preparation a midwife had was an apprenticeship, the contents of her bag were a bottle of olive oil, a jar of petrolatum, a scalpel, a pair of scissors and the root of an herb known as the "hand of mother Mary." The root was cleared of the soil by just putting it into a bowl of water for a while previous to introducing it into the cervix. Birth facilitating qualities were ascribed to the use of holy water, the wearing of a belt with Koran inscriptions, the keeping of a candle, a sword or a turban from the mausoleums of the great in the confinement room, and the drinking of water from the palms of the husband's hands. If she attended a primipara, the midwife would bring a specially constructed chair, much like the high chairs now in use for children, from which immediately after the birth of the child the woman was carried to the floor bed, which procedure often must have been the cause of severe hemorrhage.

The author's comment on the history of medical education throws an interesting sidelight on the development of obstetrics. He refers to an address which he delivered on the occasion of "medical day," when he said: "Looking west, we find that classical medical education was instituted only one century ago; looking east, we find that the teaching of medicine can be traced back at least six centuries. Why not regard as our first teaching center the school and hospitals established in Kayseri by the Seljuks instead of the school established under Sultan Bayezid 200 years later in Brussa.

Obstetrics did not occupy a special place in the curriculum of early Turkish

institutions; only in the books on surgery are found chapters on medicaments to be used, and measures to be taken in complicated births, from which may be inferred that the obstetrics was being taught together with surgery. In the illustrated surgical handbook written in 1465 by Sherefeddin Ali are discussions and illustrations of retractors and other instruments some of which were much like those used by Ebulkasim.

At the imperial medical school founded by Sultan Mahmoud II in 1826 in Istanbul there was a more progressive curriculum. At this period religious fanaticism did not permit the dissecting of human bodies and anatomy still had to be studied from manikins. In 1836 the medical and surgical departments were merged, and Professor Bernard of the Vienna medical school became the director. The school was reorganized along European lines, and henceforth the students had the opportunity to observe Professor Bernard perform necropsies at the Austrian hospital. In 1843 the first courses for midwives were organized and in 1845 the first certificates were issued. The first special course in obstetrics for physicians was organized in 1852 and soon the translation of obstetric textbooks from French into Turkish began. Then about 1880 a number of honor students were sent to France for postgraduate work along special lines. In one of these groups was Dr. Besim Omer, who specialized in obstetrics and pediatrics under Professor Budin of Paris and on his return in 1885 was appointed lecturer on obstetrics at the medical school in Istanbul. At first, Sultan Abdul-Hamid II (1875-1908) favored the professors in the medical school but later, anticipating a possible political influence, saw to it that the number of physicians allowed to engage in postgraduate work in France or Germany was restricted. But by the time of the adoption of the constitution in 1908 a great number of physicians had availed themselves of the opportunity to do postgraduate work abroad. While Besim Omer Pasha is an advocate of the French school and French methods, the late Dr. Asaf Dervish Pasha, professor of gynecology at the medical school and author of "diseases of women," advocated German methods. Both may be regarded pioneers of obstetrics in Turkey for to both belongs the honor of having paved the way for the establishment of scientific obstetrics. It was not easy to overcome the reluctance of Turkish women to seek the advice of physicians; fifty years ago it was still customary for women in childbirth to be attended exclusively by midwives. It required patience and tact on the part of those early obstetricians to overcome that reluctance at first in the homes of the wealthy and then gradually in the outpatient departments of the hospitals, where in the beginning many a young woman refused to lift her veil or give her proper age.—*J. A. M. A.*, Aug. 13, 1932.

Book Reviews

Imhotep to Harvey.
Backgrounds of Medical History.

By C. N. B. Camac, M. D. Foreword by Henry Fairfield Osborn, Sc. D., LL. D. Paul B. Hoeber, Inc., New York. 1931. Price, $3.75.

The period considered in this book ranges from -2890 B. C. to 1657. The material has been gathered very carefully from well chosen sources, and it is presented in a most interesting and fascinating manner. The book reads like a novel and makes a very strong appeal to the reader to inform himself further on matters of history bearing on medicine. The student will find this book specially attractive because the presentation of the subject is made simply and concisely.

Tables given are: "Approximate Dates of Earliest Known Records;" "General View of the Development of Learning From Earliest Times to the Seventeenth Century;" "Ancient Seats of Learning and Localities of Early Schools and Universities With Date of Founding."

A Manual of Pharmacology

By Torald Sollmann, M. D., Professor of Pharmacology and Materia Medica in Western Reserve University. 4th Ed. W. B. Saunders Company, Philadelphia. 1932. Price, $7.50.

A most excellent and reference work for both student and practitioner. There is so much agreement with the author of this book that it would be not only hazardous but futile to enter on a critical discussion of it. It is a good book; it is well written by a master in this field; it contains everything one should know about drugs—with special emphasis placed on the knowledge that is not only important but most useful in practice, and it is a sure, safe and sane guide to the use of drugs for the treatment of disease. No hobbies are ridden; the needs of student and practitioner are kept in mind.

The present revision is restricted chiefly to the fields in which there has been a definite advance, and the author exercises a cool and dispassionate judgment in determining what is an advance and what is mere rumor or haphazard discussion. The student will do well by himself if he will form a good reading and thinking acquaintance with this book.

Human Cancer

By Arthur Purdy Stout, M. D., Associate Professor of Surgery in Columbia University. Lea & Febiger, Phliadelphia. 1932. Price, $10.

In this work the student will find an orderly and up to date presentation of the subject. It deals with cancer by regions. A separate chapter is devoted to each region.

The principles that lead to the selection of the best form of treatment are discussed and the comparative results which have already been obtained are stated. This work is written on the assumption that every cancer may be preceded by the action of something upon the body cells which results in hyperplasia. For this reason the etiological factors and the precancerous lesions are discussed in the description of every form of cancer. Whether or not there is a direct cause or relationship between these factors and the disease, the evidence offered indicates that in at least some cases development may be prevented by the elimination of the irritant factor or the cellular hyperplasia.

The Expectant Mother's Handbook

By Frederick C. Irving, M. D., Professor of Obstetrics in Harvard Medical School. Houghton Mifflin Company, Boston. 1932. Price, $1.75.

In his leisure moments the recent graduate will do well to spend some of his time, and with profit, in reading this little book and familiarize its contents. Then he will give a copy to every expectant mother whom he will attend later in confinement in order that she may learn much that she should know and unlearn much more that she should not know—if she is to have peace of mind. It is a book written for the patient, not for the doctor—but if she is to know this, the doctor must know it first. Therefore, he should buy a copy and read it; then pass it on where it will do the most good.

Manual of Clinical and Laboratory Technic

By Hiram B. Weiss, M. D., Associate Professor of Medicine, College of Medicine, University of Cincinnati, and Raphael Isaacs, M. D., Associate Professor of Medicine, Assistant Director of the Thomas Henry Simpson Memorial Institute for Medical Research, University of Michigan. Fourth edition. W. B. Saunders Company, Philadelphia. 1932. Cloth, $1.50 net.

Materia Medica, Pharmacology and Therapeutics

By Walter A. Bastedo, Assistant Professor of Clinical Medicine, Columbia University. 3d. Ed. W. B. Saunders Company, Philadelphia. 1932. Price, $6.50.

This book is too well known to need any introduction. Extensive research in many fields related to medicine have prompted the author to rewrite the book almost completely. Many new chapters have been added to cover the field of new preparations recently introduced into therapeutics, and new articles on special methods and forms of treatment have been added. The book is thoroughly up to date and will make its own appeal for use as a text especially for therapeutics.

Nutrition Service in the Field Child Health Centers

A publication of the White House Conference on Child Health and Protection. The Century Company, New York. 1932. Price $2.

The first part of the book is devoted to the report of the Subcommittee on Nutrition. This report is a study of nutrition work, a relatively new activity in the general program for child health and protection. It explains what has so far been accomplished, reveals the need for nutrition education, makes definite recommendations for raising services to the required standard, and describes the work of outstanding nutrition services for children in different parts of the country.

The second part of the book is devoted to the report of the Subcommittee on Child Health Centers. This report includes a review of an extensive survey of child health centers, a list of health centers in the United States and its possessions, an account of the nature and scope of the work of these centers, and the recommendations of the subcommittee for improving and extending this important part of child welfare work.

Clio Medica: VII—Medicine Among the American Indians

By Eric Stone, M. D. Paul B. Hoeber, Inc., New York. 1932. Price, $1.50.

The author has collected, in compact form, and written most readably, all the material he has succeeded in unearthing in long forgotten volumes bearing on the treatment of disease by the American Indian. He describes the methods em-

ployed and the drugs used, among which are many in use today, for various diseases. Although much of the Indian's treatment of disease was strangely mixed up with religious rites and belief in the supernatural, the medicine man seems to have fortified his hocus pocus by careful prescription of drugs on which reliance could be placed to achieve the desired result. This is a book well worth reading. It is not long, but is full of interesting material, and it will be good to know what wildly growing herbs (provided one is able to identify them) can be used in an emergency when the medicine cabinet or the drug store are many miles distant and virtually unreachable. For instance, wild holly for quinine; tobacco or hellebore or silver pine as an antiseptic; etc. Not bad to know.

Pulmonary Tuberculosis

By Maurice Fishberg, M. D. Two volumes; 1191 pages; 232 engravings; 8 plates. 4th Ed. Lea & Febiger, Philadelphia. 1932. Price, $15.00.

This work has been rewritten and revised to cover every recent advance in the subject. Over three hundred pages and over one hundred new illustrations, mostly roentgenograms, have been added. It presents the disease from every angle. It is based on the latest and most authoritative knowledge. Roentgenology plays a much more important part than in previous editions. Treatment, especially treatment in the home, is emphasized throughout, showing how it may be adapted to the individual case and conditions so as to make it most effective.

Obstetric Education

A publication of the White House Conference on Child Health and Protection. The Century Company, New York. 1932. Price, $3.

The findings of the Subcommittee on Obstetric Teaching and Education of the Committee on Prenatal Care are discussed in this volume, and recommendations are offered to improve obstetric practice and to lower the present high maternity death rate in the United States. The subcommittee made an appraisal of: the training of physicians for obstetric practice, including undergraduate training and subsequent or graduate education, the obstetric education of nurses and nursing attendants; the history, status abroad and status in this country, education, and training of midwives; and the obstetric education of the laity and of social workers. The subcommittee advocates more adequate professional training and points out the necessity of securing the recognition and support of the laity without which no comprehensive plan for maternal care will function properly.

Medicine and the State

By Sir Arthur Newsholme. Williams and Wilkins Company, Baltimore. 1932.

The book, based on a personal survey of conditions in eighteen European countries, deals with such vital problems as the cost of medical care, the cooperation of public health officials and private practitioners, and the need of facilitating the private doctor's work in preventive as well as curative medicine.

Sir Arthur offers a comprehensive definition of "state medicine" including all "official practice." He includes hospitals and clinics, whether supported by taxes or voluntary contributions, and sickness insurance schemes, where the general practitioner gives the treatment, public health activities to prevent smallpox, tuberculosis, typhoid, diphtheria and other infectious diseases, and school hygiene, as well as tax-supported means of caring for paupers and the insane. In this wide sense, he argues "official practice," while necessarily encroaching to some extent on private practice, dovetails with it, and has gone far toward creating new opportunities for the general practitioner to

exercise his calling more effectively and often with greater assured remuneration.

Sir Arthur's new volume interprets the facts assembled during his survey of European countries, conducted for the Milbank Memorial Fund, New York, and presented in a series of three volumes published last year.

On the subject of costs the author's findings agree with those of the Committee on the Costs of Medical Care.

He holds that the cost of sickness is overwhelmingly great for a large share of the population, even in more prosperous countries, and in support of this contention quotes Dr. Hugh S. Cumming, Surgeon General of the United States and Dr. Olin West, Secretary of the American Medical Association, both members of the Committee on the Costs of Medical Care.

The social and financial gains from public health and other similar organized activities "are almost incredibly great," says the author, who points to the increased expectancy of life in his own country which "holds good at every age right up to advanced old age." He says that tuberculosis now takes only about one-third of its former toll, while infant mortality is less than one-half of what it was forty years ago.

For workers below a certain wage level he holds that the best solution is some insurance scheme primarily supported by employers and employees but to a certain extent also by and under the supervision of the state. Although voluntary sickness insurance is successful in some countries, for instance, in Denmark, he believes that a compulsor scheme, as in Great Britain, is "justifie in that it protects the weakest financiall and morally."

That sickness insurance can become "valuable instrument in preventive medi cine," is pointed out by the author, wh also urges more preventive work by th general practitioner. He maintains tha the private doctor should be "the famil adviser of the well and not only of th sick," but goes on to say that before th doctor can be expected to serve thos who are not sick a radical change i methods of his remuneration will have t be effected. Drawing on his experienc and extensive investigations, Sir Arthu concludes that, even if certain classes o the population are cared for through compulsory sickness insurance, som scheme of voluntary insurance for othe classes will best assure pay for the do tor while guaranteeing more complet care for the insured family.

As to complaints regarding so-called encroachments on private practice, Si Arthur points to the rise of specialism the development of hospitals, and of pub lic measures for the control of infectiou diseases as the principal factors in pro viding medical service which the general practitioner as such was incapable o providing. The "encroachment," there fore, has been on "territory never pre viously occupied."

The three volumes containing the de tailed facts of the survey, published b the same firm, bear the general title "International Studies on the Relation Be tween the Private and Official Practice of Medicine."